

1. This is an action to recover damages and civil penalties on behalf of the United States of America brought pursuant to Title 31 U.S.C. § 3729, *et seq.*, popularly known as the False Claims Act, arising out of false claims presented by Defendants through deception involving the underpayment of natural gas royalty payments from the production by Defendants of natural gas from

leases the Defendants had with the United States of America on federal lands and for blocks of acreage on the Federal Offshore Continental Shelf, (collectively referred to as "Leases").

II. PARTIES

Relator

2. Relator JACK A. DUTTON is an individual residing in the State of Texas and brings this action on behalf of the United States of America.

3. Defendant SHELL OIL COMPANY hereinafter referred to as "Shell" is a Delaware Corporation authorized to do business in the State of Texas, and can be served with a Summons by serving its registered agent at the following address:

C T Corporation System
811 Dallas Avenue
Houston, TX 77002-5989

Defendant SHELL OFFSHORE INC. hereinafter referred to as "Shell Offshore" is a Delaware Corporation authorized to do business in the State of Texas and can be served with a Summons by serving its registered agent at the following address:

C T Corporation System
811 Dallas Avenue
Houston, TX 77002-5989

Defendant SHELL WESTERN E&P INC. hereinafter referred to as "Shell Western" is a Delaware Corporation authorized to do business in the State of Texas and can be served with a Summons by serving its registered agent at the following address:

The Prentice-Hall Corporation System, Inc.
800 Brazos
Austin, TX 78701

Defendant SHELL GAS TRADING COMPANY hereinafter referred to as “Shell Gas” is a Delaware Corporation and can be served with a Summons by serving its registered agent at the following address:

C T Corporation System
811 Dallas Avenue
Houston, TX 77002-5989

At all times relevant, Shell, Shell Offshore, Shell Western, and Shell Gas, by and through their past representatives, agents, parent corporation(s), subsidiaries, divisions, and/or affiliates, have been in the business of producing natural gas and natural gas products from “Leases” owned and/or controlled by the United States. At all times relevant, Shell, Shell Offshore, Shell Western, and Shell gas, by and through their past representatives, agents, parent corporation(s), subsidiaries, divisions, and/or affiliates, conducted operations on leases from the United States of America on federal lands and on the Federal Offshore Continental Shelf.

III. CONDITIONS PRECEDENT

4. As required by the False Claims Act, Title 31 U.S. § 3730, Relator files this suit *in camera* and under seal with this Court. Relator also serves pursuant to Federal Rule of Civil Procedure 4, the Attorney General of the United States and the United States Attorney for the Eastern District of Texas, simultaneously with filing of the Original Complaint, with a copy of the Original Complaint and a Written Disclosure of substantially all material evidence and information related to this complaint and allegations contained herein.

5. Furthermore, this complaint is to be filed *in camera* and under seal and shall remain under seal for a period of at least sixty (60) days and shall not be served on Defendants until

the Court so orders. The Government may elect to intervene and proceed with the action within the sixty (60) days after it receives this complaint and material evidence and information.

IV. JURISDICTION AND VENUE

6. Relator is authorized to file these claims on behalf of the United States of America by Title 31 U.S.C. § 3730(b).

7. Pursuant to the Federal False Claims Act, Title 31 U.S.C. § 3729, *et seq.*, this Court has exclusive jurisdiction over any actions brought under this Act.

8. Pursuant to the Federal False Claims Act, Title 31 U.S.C. § 3732 (a), venue is proper and suit may be brought in any judicial district in which the Defendants, or in the case of multiple Defendants, any one Defendant can be found, resides and/or transacts business, or in which any act proscribed by Title 31 U.S.C. § 3729 occurred.

9. At all times relevant to the facts of this case, and based on information and belief, one or more of the Defendants is found, resides, transacts business and/or has committed acts proscribed by Title 31 U.S.C. § 3729 within the Eastern District of Texas. Accordingly, venue is proper in this Court.

V. STATEMENT OF FACTS

10. The Relator, Jack A. Dutton, has over forty years of experience in the petroleum industry in engineering, management and consulting assignments. These assignments were as an employee of what is now Exxon Co. USA, Tenneco Oil Exploration & Production, Tenngasco Corporation, and Tenneco Gas Marketing Company and as President of Dutton Energy Consultants, Inc. The Relator had the opportunity to review various documents related to the marketing of gas by Shell Oil Co. and its affiliated companies.

11. Through these positions, Relator became aware of the process by which Shell Oil Co., its affiliates and subsidiaries set up procedures and policies that deceptively reduced Shell Oil Co. and its affiliated companies's obligations to pay money to the United States as royalties for gas produced on federal leases and therefore damaged the United States in an undetermined amount.

12. Defendants entered into mineral leases with the United States which provided that Defendants were to pay royalties for gas processed and/or saved from Offshore Leases owned and/or leased by the United States.

13. This action is brought to recover damages for underpayment of royalties resulting from deceptive, fraudulent and improper use of forms on which Defendants are not and were required to report gas sales and royalty payments.

14. The collection of United States' royalties from federal "Leases" is administered by the Mineral Management Service ("MMS") of the United States Department of Interior ("DOI").

15. The United States, through the MMS, requires each lease of the United States to file a monthly report of its gas sales and royalty payments for the preceding month. This form, Form MMS-2014 "Report of Sales and Royalty Remittance" requires the lessee to state the sales values and volumes at which the royalties have been calculated for royalty payments.

16. Form MMS-2014 bears a warning statement and a signature line. The warning statement provides

"WARNING: This is to inform you that failure to report accurately and timely in accordance with the statutes, regulations or terms of the lease, permit, or contract may result in late charges, civil penalties, or liquidated damages being assessed without further notification. Intentional false or inaccurate reporting is subject to criminal prosecution in accordance with applicable federal law(s)."

The signature line provides a statement

“I have read and examined the statements in this report and agree that they are accurate and complete.”

17. The Code of Federal Regulations at 30 C.F.R. § 206.102(h) provides the standard for valuation of production on federal lands and Offshore Leases as follows:

Notwithstanding any other provision of this section, under no circumstances shall the value of production for royalty purposes be less than the gross proceeds accruing to the lessee for residue gas and/or gas plant products, less applicable transportation allowances and processing allowances determined pursuant to this subpart.

18. The damages to the United States as set forth herein are caused in part by Defendants' abuse of the corporate form. The gas producing affiliates of Defendants have “sold” gas to other affiliates at favorable prices, using the proceeds from these inter-affiliate sales as the basis for the payment of royalty to the United States while the affiliated Shell Gas re-sold the gas to third parties at higher prices. The corporate identity of the various corporate Defendants should be disregarded because they have used the corporate fiction as a means of perpetrating a fraud upon the United States by one or more of the following: they have operated as alter egos of one another, they have operated as a single business enterprise; they have used the corporate fiction as a means of evading their legal obligations to the United States.

Shell Company employees worked for all the affiliated companies simultaneously without regard to the corporate form.

19. Defendants have also underpaid the United States by using affiliates to market, gather, compress, treat, and transport the gas produced from federal lands and Offshore Leases of the United States, paying to such affiliates unreasonable and excessive rates for such services, thereby decreasing the amount of royalties received by the United States.

20. The United States has sustained and will continue to sustain damages of the same nature as a result of the excessive and unreasonable post-production charges made by Defendants and/or any subsidiaries or affiliates(s) of Defendants. The excess post-production charges made directly or indirectly to the Defendants, and/or the inter affiliate sales of gas, other products and other transactions, have the net effect of decreasing the royalty income received by the United States.

21. Defendants have improperly and intentionally manipulated the gas prices, and fraudulently concealed the same from the United States, by using complex marketing arrangements that for years have impeded anyone from discovering the under payments complained of herein. Defendants have filed false statements that do not reflect the actual cash value of the gas produced; Defendants have filed false statements that fail to reflect the premiums actually received for the gas produced; and, consequently, Defendants have intentionally and significantly underpaid the royalties on gas actually owed and belonging to the United States.

22. Defendants have improperly paid royalties based on the artificial "first purchase" prices for the gas produced. These artificial prices have been used by Defendants for accounting purposes and to reduce the royalties due and owing to Relator and the United States.

23. Defendants have intentionally and willingly used various techniques to defraud the United States on the royalties owed. First, by misrepresenting the "first sale" of gas under buy/sell agreements between themselves and other non-defendant producers or affiliate(s) of Defendants used to gather the gas, compress the gas, treat the gas, transport the gas, market the gas, process the gas, purchase the gas and/or process and market liquids produced or transported, as the actual value received for the gas.

24. Defendants further perpetrated a fraud upon the United States by using affiliated companies as the "first purchaser" of the gas which purchased the gas at a lesser value than the amount available on the open market. These affiliates then sold the gas at the market price available from third parties, thereby passing the increase in the sales back to Defendants while reducing the amount of royalties owed to the United States.

25. Defendants charged and collected inflated and unreasonable charges for gas compression, treatment, and/or transportation against the value of the gas produced thereby artificially reducing the actual value of the gas produced thereby reducing the amount of royalties due and owing to the United States.

26. Defendants have engaged in some or all of the foregoing conduct whereby Defendants falsely devalue the price received for gas, thereby damaging, and continuing to damage the United States.

27. Regardless of the scheme(s), or combination of scheme(s), used by the Defendants, the net result is the improper and fraudulent reduction of the price paid for gas for the sole purpose of re-directing to the Defendants and their parent corporation(s), subsidiaries, divisions, and/or affiliates the royalties owed the United States.

28. Relator believes and alleges these false statements constituted false and/or fraudulent claims within the meaning of Title 31 U.S.C. § 3729.

VI. CAUSES OF ACTION

COUNT 1

29. Relator realleges the previous paragraphs as if set forth herein.

30. Defendants have knowingly presented, or caused to be presented, to an officer or employee of the United States a false or fraudulent claim for payment or approval.

31. These false and fraudulent claims have been made in various documents filed with the United States.

32. As a result of Defendants' conduct, Defendants have violated the Federal False Claims Act, Title 31 U.S.C. § 3729 (a)(1) damaging the United States by depriving the United States of its full and proper royalty amount to which it is entitled.

33. Defendants submitted false records and fraudulent claims multiple times and are therefore liable for a civil penalty pursuant to the terms of the Federal False Claims Act, Title 31, U.S.C. § 3729, *et seq.*, for each violation.

COUNT 2

34. Relator realleges the previous paragraphs as if set forth herein.

35. Defendants have made, used, or caused to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the United States.

36. These false and fraudulent claims have been made in various documents filed with the United States including but not limited to Form MMS-2014, and other various records and documents fraudulently developed in support of the fraudulent Form MMS-2014.

37. As a result of Defendants' conduct, Defendants have violated the Federal False Claims Act, Title 31 U.S.C. § 3729 (a)(2), damaging the United States by depriving the United States of its full and proper royalty amount to which it is entitled.

38. Defendants submitted false records and fraudulent claims multiple times and are therefore liable for a civil penalty pursuant to the terms of the Federal False Claims Act, Title 31 U.S.C. § 3729, *et seq.*, for each violation.

COUNT 3

39. Relator realleges the previous paragraphs as if set forth herein.

40. By and through the use of check stubs, royalty statements and/or division orders, Defendants have made, used or caused to be made, a false record thereby getting the United States to approve the false record.

41. As a result of Defendants' conduct, Defendants have violated the Federal False Claims Act, Title 31 U.S.C. § 3729 (a)(2), damaging the United States by depriving the United States of its full and proper royalty amount to which it is entitled.

42. Defendants submitted false records and fraudulent claims multiple times and are therefore liable for civil penalty pursuant to the terms of the Federal False Claims Act, Title 31, U.S.C., *et seq.*, for each violation.

COUNT 4

43. Relator realleges previous paragraphs as if set forth herein.

44. Defendants have issued to the United States check stubs, royalty statements and/or division orders which do not reflect the actual price received for gas produced and/or saved on lands owned and/or controlled, and properly leased by the United States. Defendants willfully issued and delivered these statements and/or division orders to the United States in order to conceal the delivery of less property, i.e., royalty payments, than was rightfully owed the United States.

45. As a result of Defendants' conduct, Defendants have violated the Federal False Claims Act, Title 31 U.S.C. § 3729 (a)(4), damaging the United States by depriving the United States of its full and proper royalty amount to which it is entitled.

46. Defendants submitted false records and fraudulent claims multiple times and are therefore liable for civil penalty pursuant to the terms of the Federal False Claims Act, Title 31 U.S.C. § 3729, *et seq.*, for each violation.

COUNT 5

47. Relator realleges the previous paragraphs as if set forth herein.

48. Defendants have made, used, or caused to be made, false check stubs, royalty statements and/or division orders to conceal, avoid, and/or decrease Defendants' obligation to pay royalty based on true market value to the United States.

49. As a result of Defendants' conduct, Defendants have violated the Federal False Claims Act, Title 31 U.S.C. § 3729 (a)(7), damaging the United States by depriving the United States of its full and proper royalty amount to which it is entitled.

50. Defendants submitted false records and fraudulent claims multiple times and are therefore liable for a civil penalty pursuant to the terms of the Federal False Claims Act, Title 31 U.S.C. § 3729, *et seq.*, for each violation.

COUNT 6

51. Relator realleges previous paragraphs as if set forth herein.

52. Defendants have issued to the United States royalty statements and/or division orders which do not reflect the actual price received for the gas produced. Defendants intentionally delivered these erroneous royalty statements and/or division orders to defraud the United States of

the full royalty payment it is entitled to.

53. As a result of Defendants' conduct, Defendants have violated the Federal False Claims Act, Title 31 U.S.C. § 3729 (a)(5), damaging the United States by depriving the United States of its full and proper royalty amount to which it is entitled.

54. Defendants submitted false records and fraudulent claims multiple times and are therefore liable for civil penalty pursuant to the terms of the Federal False Claims Act, Title 31, U.S.C. § 3729, *et seq.*, for each violation.

CONCLUSION

WHEREFORE, Relator, on behalf of himself and the United States, requests that:

After at least sixty (60) days or upon order by the Court, that Defendants be cited to appear and answer and, upon final trial or hearing, that judgment be awarded to Relator and the United States and imposed upon the Defendants, jointly and severally, for:

- A. All actual, incidental, and/or consequential damages resulting from the underpaid gas royalties sustained by the United States;
 - (1) treble damages pursuant to the Federal False Claims Act, Title 31 U.S.C. § 3729 (a); civil penalties for each of the foregoing violations pursuant to Federal False Claims Act, Title 31 U.S.C. § 3729 (a); and
 - (2) post-judgment interest at the highest legal rates allowed by law, where applicable.
- B. Relator:
 - (1) Be awarded reasonable and necessary attorneys' fees, litigation expenses, costs of suit through trial and any appeal thereof;
 - (2) In the event that the United States intervenes and proceeds in this suit, Relator be awarded an amount for originating this action of at least fifteen (15%) per cent but no more than twenty-five (25%) per cent of the proceeds of the judgment or settlement;
 - (3) In the event the United States does not intervene in and proceed with this action against all the Defendants, Relator be awarded an amount

for originating this action and collecting the civil penalties and damages, which shall not be less than twenty-five (25%) per cent nor more than thirty (30%) per cent of the proceeds of the judgment or settlement;

- (4) Be awarded the post-judgment interest at the maximum legal rate;
- (5) On behalf of himself and the United States, request that this Court grant such other and further relief, both at law and in equity, to which they are justly entitled.

Respectfully submitted,

LLOYD R. CUNNINGHAM

Federal Bar No. 4609

12 Greenway Plaza, Suite 1350

Houston, TX 77046-1201

Tel.: 713/961-9929 Fax: 713/961-9788

HOWARD M. RUBINSTEIN

Federal Bar No. 23253

3103 Harrisburg

Houston, TX 77003

Tel.: 713/224-7200 Fax: 713/228-2324

FLEMING & ASSOCIATES, L.L.P.

George M. Fleming

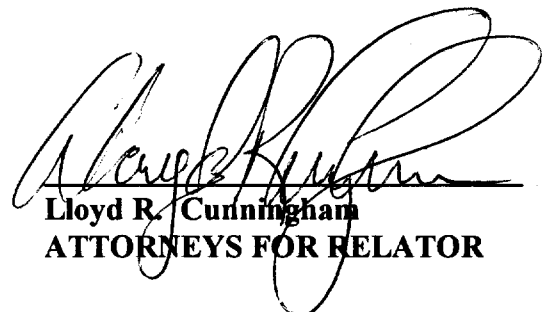
Federal Bar No. 17974

1330 Post Oak Blvd., Suite 3030

Houston, TX 77056

Tel.: 713/621-7944 Fax: 713/621-9638

By:



Lloyd R. Cunningham
ATTORNEYS FOR RELATOR

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AFFIDAVIT OF RELATOR JACK A. DUTTON

THE STATE OF TEXAS

§

§

COUNTY OF HARRIS

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BEFORE ME, the undersigned, a Notary Public, on this day personally appeared Jack A. Dutton, who is personally known to me, and first being sworn according to law, upon his oath deposes and says:

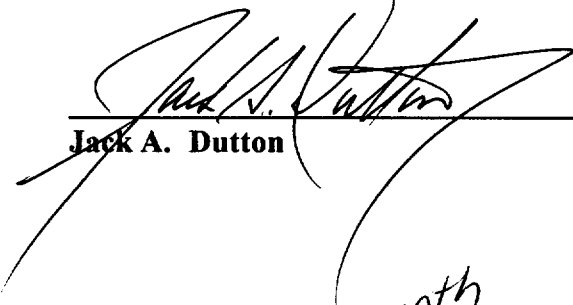
1. I am Jack A. Dutton. I am over the age of 18 years old.
2. I have over forty years of experience in the petroleum industry in engineering, management and consulting assignments. These assignments were as an employee of what is now Exxon Co. USA, Tenneco Oil Exploration & Production, Tenngasco Corporation, and Tenneco Gas Marketing Company and as President of Dutton Energy Consultants, Inc. A more detailed description is presented on the attached resume.

In 1983 under my supervision, as Director of oil and gas contracts with Tenneco Oil Company filed a Petition with the Federal Energy Regulatory Commission ("FERC") to allow Tenneco Oil to make interstate sales of natural gas directly to pipeline companies, local distribution companies and end-users. In late 1983, the FERC granted a temporary certificate to allow such sales. This was the first such certificate ever granted to a gas producing company. As a result of this and other changes in the gas market place, in the Spring of 1984, Tenneco formed Tenngasco Corporation to manage all of its natural gas businesses which were not directly regulated by the FERC. I became Vice President and later Senior Vice President of all of the commercial activities of Tenngasco Corporation. These activities included the buying and selling of natural gas, the buying and selling of transportation services for natural gas as well as contract administration. In the Summer of 1987, Tenngasco Corporation was merged with Tennessee Gas Transmission to form Tenneco Gas. I became Executive Vice President of Tenneco Gas Marketing Company with responsibilities for gas supply for all of the Tenneco gas companies. One of the activities under my supervision was the settlement of claims and lawsuits which had arisen out of past purchasing practices by various Tenneco gas companies and the reformation of gas supply contracts. One of these settlements involved Shell Oil Company. During our settlement negotiations, one of Shell's expressed objectives was to obtain the contractual release of as much gas as possible in order that they could market it themselves. It was also common knowledge within the gas industry that Shell had formed Shell Gas Trading Company as a profit center to do this marketing.

Subsequently, I worked as a consultant for Shell royalty owners in at least 4 civil cases against Shell about gas royalty underpayments. While working on these cases, I reviewed Shell documents, sat in on and reviewed depositions of Shell employees which left no doubt that Shell Oil Company, Shell Offshore, Inc., Shell Western E&P, Inc. were selling

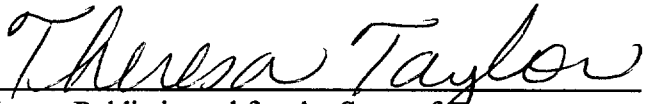
production to Shell Gas Trading Company at an index price. Shell Gas Trading Company was then selling that gas at the best price they could obtain with the difference in those two prices being credited to Shell Gas Trading Company and not share with the royalty owners.

3. I believe the United States of America ("United States") owns and/or controls certain real property and/or mineral interests including, but not limited to, Federal lands throughout the United States and offshore continental shelf and American Indian owned lands from which natural gas, casinghead gas and gas liquids, hereinafter referred to as "gas", are produced.
4. I believe Shell Oil Company and/or its producing affiliates, Shell Offshore Inc. and Shell Western E&P Inc., as Lessee, (hereinafter referred to as "Shell") entered into mineral leases with the United States, as Lessor, which called for the payment of royalties for gas produced and/or severed from lands owned and/or leased by the United States. Shell, as Lessee, had an obligation to manage and administer the leases as a reasonably prudent operator. I believe Shell failed to obtain and/or transfer the highest price reasonably possible for the United States' gas. I believe Shell knowingly and intentionally made or used false statements, including but not limited to, false representations as to the value of gas submitted to the United States, in order to conceal, avoid or decrease its obligation to pay or transmit money or property to the United States. By submitting these false statements, Shell reduced their obligation to pay money to the United States as royalties for gas produced on federal leases and therefore damaged the United States in an undetermined amount.
5. I believe Shell sold its gas production to a marketing affiliate, Shell Gas Trading Company, "SGTC", at prices determined by SGTC to be its commodity values. I believe SGTC then resold this gas production at premiums above its SGTC determined commodity values.
6. I believe that Shell paid royalty to the United States based on the SGTC determined commodity values even though its affiliate received prices in excess of these SGTC determined commodity values for the gas production.
7. I believe Shell and its affiliates operated as alter egos of one another and used the corporate fiction as a means of evading their legal obligation to the United States. I believe that, as to the marketing of gas production, the same personnel of Shell Oil Company provided marketing services for SOI and SWEPI and provided purchasing and marketing services for SGTC.
8. I believe Shell engaged in some or all of the foregoing conduct since 1986.
9. I believe these false statements constitute false and/or fraudulent claims within the meaning of 31 U.S.C. 3729.
10. I believe such fraudulent claims resulted in damage to the United States.



Jack A. Dutton

SWORN AND SUBSCRIBED TO before me on the 10th day of March, 2000, to
certify which witness my hand and official seal.



Notary Public in and for the State of Texas
My Commission expires: 10-19-02

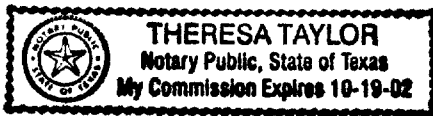


Exhibit C to Settlement Agreement Between
Shell Companies and Settling Plaintiffs Dated September 21, 1998

SEALED

CONFIDENTIALITY AGREEMENT

We hereby represent and warrant to Shell Western E&P Inc. ("Shell"), and Shell Oil Company (collectively "the Shell Companies") as follows:

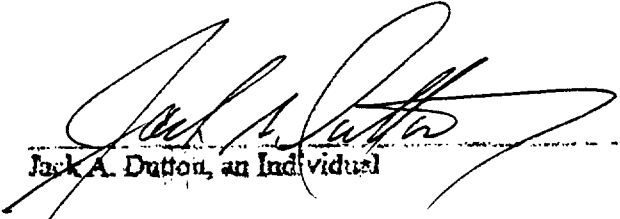
1. That we, and the other employees, representatives and principals (if applicable) of Jack A. Dutton, shall maintain in strict confidence (i) any knowledge of the terms of the Settlement Agreement with the Shell Companies relating to Cause No. 13,940, Clara L. Shovlin et al v. Shell Western E&P, Inc. et al., in the 229th District Court of Duval County, Texas (the "lawsuit"); (ii) all information provided by the Shell Companies or their representatives in connection with this lawsuit, including information provided in documents, discovery requests or responses, interrogatories or interrogatory answers, deposition testimony and exhibits; (iii) all information and knowledge obtained, acquired or developed from or about the Shell Companies or relating to the subject properties in connection with our analysis and work as expert witnesses and/or consultants in the lawsuit; and (iv) any information provided by the Shell Companies in the future in connection with any audit; and shall not voluntarily disclose or communicate such information to a third party, excluding the Settling Plaintiffs, without the prior, express written consent of Shell and under no circumstance shall use or rely upon any of the data provided by the Shell Companies for any other purpose, including without limitation, any commercial purpose involving the identification of prospective areas, competition in the acquisition of prospective acreage or drilling or development of prospective acreage.

EXHIBIT C TO SETTLEMENT AGREEMENT

-1-

2. All materials relating to the work that employees, representatives or principals of Jack A. Dutton have performed in connection with the lawsuit have been delivered to McGinnis, Lochridge & Kilgore, for return to the attorneys of Shell, Vinson & Elkins, 2300 First City Tower, 1001 Fannin, Houston, Texas 77002-6760 with the exception of the materials described on Exhibit J. This encompasses all documents produced by the Shell Companies, all discovery responses from the Shell Companies, all deposition transcripts and deposition exhibits, summaries, analysis or excerpts of such materials, materials that Jack A. Dutton received from Settling Plaintiffs or their counsel, and materials that employees, representatives or principals of Jack A. Dutton have generated; and includes all studies, calculations and reports relating to the litigation and all materials and information that Settling Plaintiffs or their counsel had obtained from the Shell Companies by way of discovery in the lawsuit.

By:

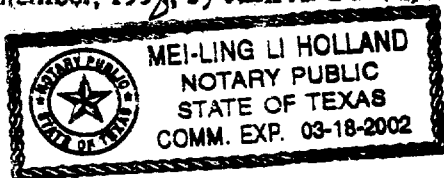

Jack A. Dutton, an Individual

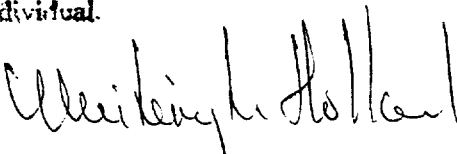
THE STATE OF Tx

COUNTY OF Montgomery

§
§
§

This Confidentiality Agreement was acknowledged before me on the 25th day of September, 1998, by Jack A. Dutton, an Individual.




Notary Public in and for
The State of Tx

VER00703:102074.1

EXHIBIT C TO SETTLEMENT AGREEMENT

-2-

**Exhibit J to Settlement Agreement Between
Shell Companies, Sordling Plaintiffs and Baron Dated September 21, 1998**

1. All documents filed with the Texas Railroad Commission or obtained or generated from documents obtained from Tennessee Gas Pipeline, Dwight's or the Texas Comptroller of Public Accounts, and from DRI/McGraw Hill.
2. Non Shell gas purchase agreements
3. Interrogatory No. 7
4. Material obtained by Mr. Clemenson from public log libraries.

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EXHIBIT J TO SETTLEMENT AGREEMENT

-1-

CAUSE NO. 2981

RAFAEL SAN MIGUEL, TRUSTEE,	§	IN THE DISTRICT COURT OF
ET AL.,	§	
	§	
Plaintiffs,	§	
	§	
v.	§	ZAPATA COUNTY, T E X A S
	§	
SHELL OIL COMPANY and	§	
SHELL WESTERN E & P INC.,	§	
	§	
Defendants.	§	49TH JUDICIAL DISTRICT

STIPULATED PROTECTIVE ORDER

HEREBY ORDERED THAT:

1. All documents and any deposition testimony designated "Confidential - Subject to Confidentiality Order" shall not be used by or disclosed to any person, except Qualified Persons as defined below, except by written agreement of the party producing the document or by order of this or any other court. (For purposes of this Order, the term "documents" includes such things as answers to interrogatories, requests for admissions, responses to production requests, computer disks, maps, other graphic depiction of independent proprietary analysis and testing, etc.)
2. The Clerk of this Court shall file under seal all documents and testimony filed in this litigation that have been designated and stamped as "Confidential - Subject to Confidentiality Order."
3. (a) "Confidential Information" as used herein, means trade secrets and such proprietary and financial information which (i) is in a category that is set forth in paragraph 3(b), (ii) is of a type that has not been disclosed to the public or to federal or state regulatory agencies (or if such is disclosed, where

such disclosure would not be information obtainable by the public upon request), (iii) has not otherwise been voluntarily disclosed to third parties unless such information was disclosed pursuant to a confidentiality agreement between the party supplying the information and the party receiving the information, and (iv) is designated by the parties supplying the information as with language to the effect that the information is "Confidential - Subject to Confidentiality Order," whether such is a document, information contained in a document, or information revealed through a deposition or otherwise in response to discovery in this case.

(b) To be designated Confidential pursuant to this Order, the document or information must contain or be (i) proprietary hydrocarbon content data gathered from tests performed by a party or for the exclusive use of a party, (ii) proprietary geological and/or geophysical data, maps, cross-sections, well logs, or other interpretations of the subsurface by a party or for the exclusive use of a party, (iii) lease agreements for producing properties, (iv) proprietary financial data on hydrocarbon sales, (v) agreements with surface owners, mineral owners, and royalty owners not filed of public record, or (vi) currently effective contracts for the sale of hydrocarbons.

4. "Qualified Persons," as used herein, means:

- a. Any party to this litigation;
- b. The undersigned counsel for the parties and employees of such counsel whose access to Confidential Information is necessary for purposes of preparation, pretrial discovery and proceedings, trial, appeal, settlement, or administration of this litigation;

c. In-house counsel for a party actively participating in the case and his legal staff, whose access to Confidential Information is necessary for the purposes of preparation, pretrial discovery and proceedings, trial, appeal, settlement, or administration of this litigation;

d. Third parties retained by counsel for the parties or by the parties in this litigation as bona fide consulting experts or expert witnesses for the purpose of preparation, pretrial discovery or proceedings, trial, appeal, settlement, or administration of this litigation;

e. The judge assigned to this case, personnel of the Court, court reporters, video equipment operators at depositions, any special master appointed by the Court, any judge with jurisdiction over this proceeding or any appeal hereof, and any authorized personnel of such appellate court;

f. Employees of Qualified Persons involved, with respect to this case solely in one or more aspects of copying, organizing, filing, coding, converting, storing, or retrieving data, or designing programs for handling data connected with these actions, including the performance of such duties in relation to a computerized litigation support system, and employees of third-party contractors performing one or more of these functions;

g. Any other person who is designated as a Qualified Person by written agreement of the parties, or by order of this Court after notice to the parties and opportunity to be heard.

5. Regardless of any designation as "Confidential - Subject to Confidentiality Order," any document may be disclosed and shown to any person who, as shown on the face of the document, is an author or recipient of the document, including recipients of copies.

If a document shown to any person under this provision is designated "Confidential - Subject to Confidentiality Order," the person to whom the document is shown may not retain the document or a copy of the document and shall be listed in accordance with the procedures in paragraph 9.

6. Information disclosed at a deposition may be designated by any party as "Confidential Information" by indicating on the record at the deposition that the testimony is so designated and subject to the provisions of this Order. The portions of deposition testimony containing Confidential Information shall be separately bound, each page thereof shall be stamped "Confidential - Subject to Confidentiality Order" and access thereto shall be limited as provided herein. Additionally, and alternatively, any party may so designate information disclosed at such deposition by notifying all counsel in writing, within 30 days of receipt of the transcript, of the specific pages and lines of the transcript that are deemed Confidential Information. Each counsel and party, upon such designation, shall attach a copy of such written designation to the face of the transcript and each copy thereof in his possession, custody or control. All deposition transcripts and all information revealed therein shall be treated as Confidential Information in accordance with this Order at the time the deposition is taken and for a period of 30 days after receipt of such transcript to allow time for each party to make its confidentiality designation, if any. Commencing 30 days prior to a trial setting in this case, the 30-day provisions of this paragraph shall be reduced to seven days.

7. A party who wishes to introduce, by way of documents or testimony, information designated by another party as Confidential Information at any hearing conducted in this litigation shall so notify the designating party prior to introducing such documents, testimony, or information so that the designating party may ask the Court to

make such arrangements as are necessary to ensure that (i) only Qualified Persons are present when Confidential Information is disclosed and (ii) that any hearing transcripts or exhibits are appropriately designated as containing Confidential Information. A party may also ask the Court to impose the protections described in this paragraph if it seeks to introduce at any hearing in this litigation information which it designated as Confidential Information. This paragraph shall not apply to the trial of this case.

8. Confidential Information may be disclosed to a deponent or prospective trial witness, other than Qualified Persons, if (i) the deponent or prospective trial witness has what counsel for a party believes is knowledge of relevant facts concerning the information set out in such Confidential Information, and, (ii) the attorney making such disclosure first delivers a copy of this Order to such person, advises the person that pursuant to this Order he or she may not divulge such confidential material to anyone other than his or her attorneys, (iii) with respect to each prospective trial witness and any deponent whom counsel proposes to show Confidential Information in preparing for his actual deposition, counsel obtains the express written agreement of the person that he or she will abide by the terms of this Order, and (iv) counsel lists each such deponent and prospective trial witness in accordance with the procedures in paragraph 9. At the request of any party, attendance at depositions may be restricted to Qualified Persons and the attorney(s) for the deponent during the disclosure of Confidential Information.

9. Counsel for a party who disclosed Confidential Information to independent third parties retained or used as consulting experts, to deponents, or to prospective trial witnesses shall maintain a list of those persons to whom such disclosure has been made and of the Confidential Information that has been disclosed, provided that disclosure of those names on the list shall be by notice and hearing before the court with jurisdiction of the

litigation or at the request of the producing party within 90 days from the conclusion of this litigation.

10. The inadvertent disclosure of Confidential Information that has not been so designated shall not be deemed a waiver in whole or in part of a party's claim of confidentiality, either as to the specific information disclosed or as to any other information relating thereto or on the same or related subject matter; and designation of Confidential Information hereunder may be made at any time to be effective upon and after such designation except as otherwise provided herein. Furthermore, nothing contained herein shall, however, prevent any party from seeking an additional protective order at the time of trial. Additionally, the fact that any information is disclosed at the time of trial shall not abrogate Qualified Persons' continuing obligation to treat such information as confidential.

11. Nothing in this Order shall be deemed to preclude any party from seeking and obtaining additional protection with respect to the confidentiality of documents or other discovery material, nor shall it preclude any party from seeking and obtaining relief from this Order with respect to particular material designated hereunder as Confidential Information. In addition, nothing in this Order shall preclude any person from using (including sharing their contents with any person or entity), his or its own documents or any documents in his or its possession (including duplicates or copies of documents originated by the party requesting confidentiality in this case) obtained from third parties. Nothing contained herein shall serve to modify or otherwise limit any other confidentiality agreement or order. Additionally, nothing contained herein shall require or imply that any party receiving documents or information from a third person shall be under any obligation to inquire about any confidentiality agreement or order to which such documents or information might be subject, excepting any other order entered in this litigation.

12. In the event that any of the parties disagrees with the designation by the designating party of any information as Confidential Information the disagreeing party may seek relief from the Court. The information in question shall continue to be treated as Confidential Information until this Court rules on the objection to the designation.

13. In the event that a party wishes to use Confidential Information in affidavits, briefs, memoranda of law, or other papers filed in Court in this litigation, such information shall be treated in accordance with this Order and filed and maintained under seal with the Court.

14. If a non-party demands, by subpoena or other legal process, that any party who has received Confidential Information or counsel for such party produce such information, counsel for any such party shall (i) immediately notify in writing counsel for the designating or producing party and (ii) decline to produce such information until permission is granted by the designating party or an appropriate court order is entered.

15. Upon written request by the producing party after 90 days from the conclusion of this litigation, including any appeals, all documents (other than trial exhibits and attorney work product, such as briefs and memoranda) and deposition transcripts designated as Confidential Information and all photocopies or other copies thereof, as well as all Confidential Information derived in any way therefrom, including all summaries, whether in graphics, typed or hand-written form, all notes taken by an expert, or other person who has had access to such information (but excluding any attorney notes and/or work product), shall be returned to the party or parties who produced such information except as this Court may order. The provisions of this Order shall continue to be effective after the conclusion of this litigation, including all appeals.

16. This Order shall not bar any attorney for a party in this litigation, in the course of rendering legal services to his client with respect to this litigation, from referring to or relying in a general way upon his examination of Confidential Information produced, disclosed, or revealed pursuant to the terms of this Order, nor shall this Order prevent any attorney from representing or advising other persons with respect to any related or other independent litigation with any party regarding matters which may concern or reference any confidential material, provided that any documents designated confidential herein, but which is to be used in other litigation must be obtained by the attorney through separate discovery in that litigation.

17. Any party (or party's attorney) designating any person as a Qualified Person or disclosing Confidential Information to a Qualified Person, shall obtain the agreement of such person to observe the terms of this Order. Each person described in subparagraph 4a and d to whom Confidential Material is to be disclosed shall, prior to receiving such disclosure, be furnished with a copy of this Stipulated Protective Order and shall execute a written statement to the effect that such person has read and understands its provisions and agrees to be bound thereby.

18. Nothing contained in this Order, and no action taken pursuant to this Order, shall prejudice the right of any party to urge or contest the alleged relevancy, admissibility, or discoverability of documents subject to this order.

19. The Court may prescribe procedures it deems reasonable and necessary with respect to Confidential Information and this Order for the trial of this case. Nothing in this

Order shall operate to hinder or impede the presentation of evidence at the trial of this case.

ORDERED this 29th day of October, 1993.

Manuel A. Zayas
JUDGE PRESIDING

APPROVED AS TO SUBSTANCE AND FORM
AND ENTRY REQUESTED:

Jeffery L. Hart
Jeffery L. Hart

State Bar No. 09147300

John A. Cardwell

State Bar No. 03791200

CARDWELL & HART

807 Brazos, Suite 1001

Austin, TX 78701

Telephone No. (512) 322-0011

Fax No.: (512) 322-0808

ATTORNEYS FOR PLAINTIFFS

W. Mark Cotham
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State Bar No. 01465500

MORRIS & CAMPBELL

A Professional Corporation

600 Jefferson, Suite 1617

Houston, Texas 77002

Telephone No.: (713) 659-8697

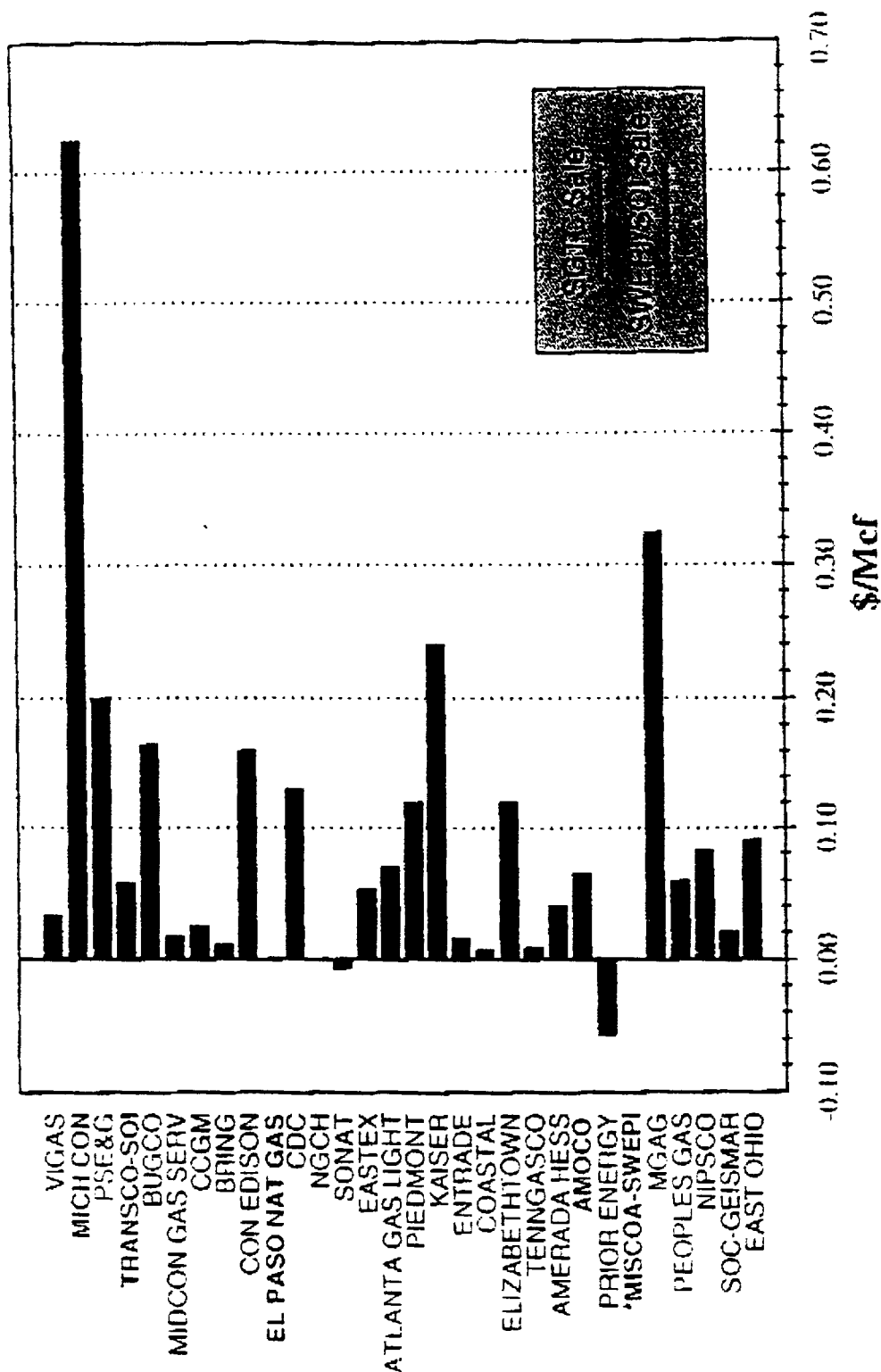
Fax No.: (713) 659-3020

ATTORNEYS FOR DEFENDANTS

P 05699

CONFIDENTIAL
SUBJECT TO PROTECTIVE ORDER

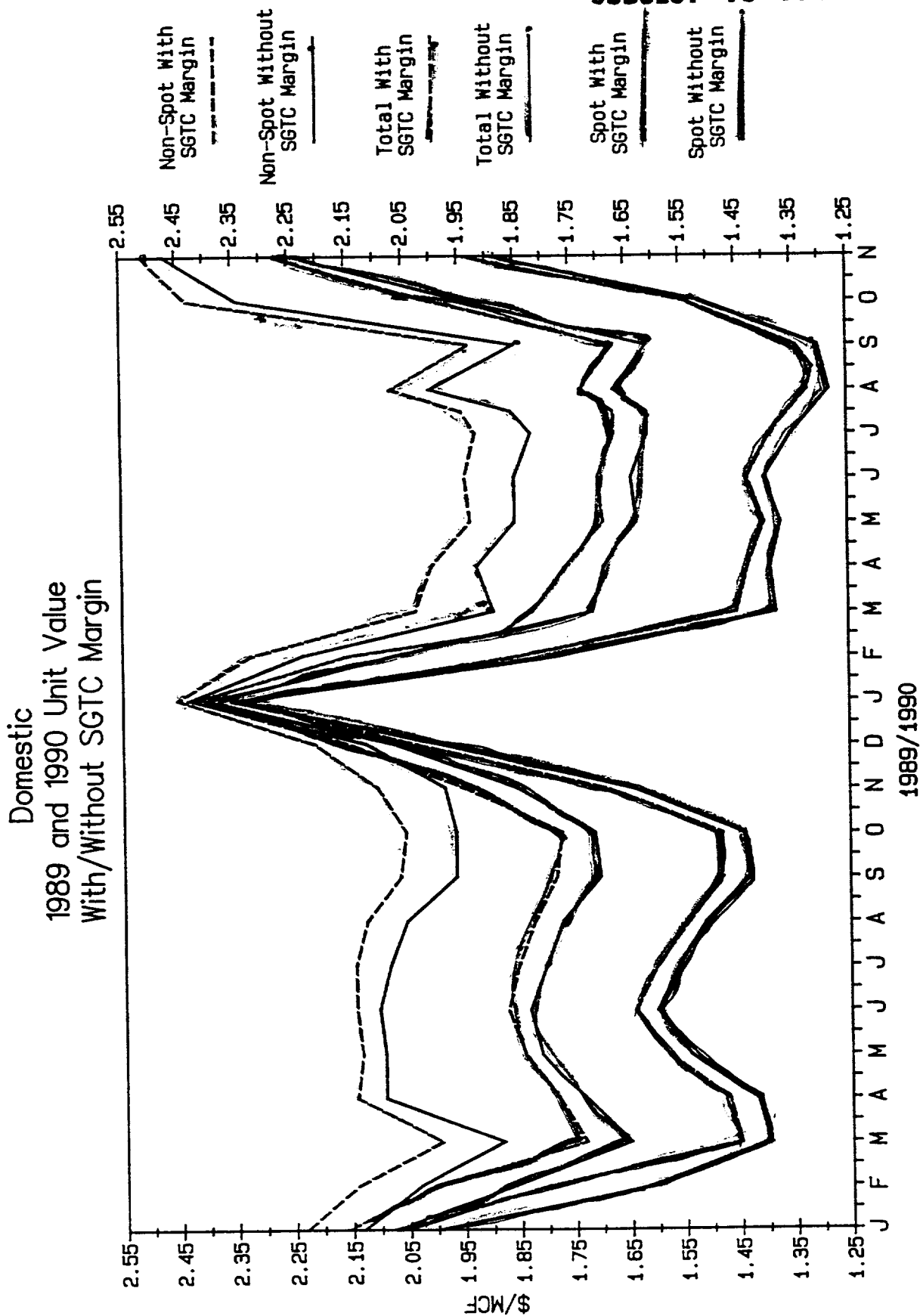
Natural Gas Sales Premium Over Spot 1993



* Settlement contracts, not measured against spot

pgs 055

CONFIDENTIAL
SUBJECT TO PROTECTIVE ORDER



CARDWELL & HART

ATTORNEYS AT LAW

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TELEPHONE: (512) 322-0011
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February 7, 1994

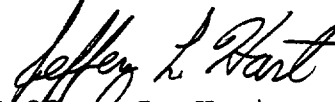
Jack A. Dutton
15427 Terrace Oaks Drive
Houston, Texas 77068

Re: No. 2981, *Rafael San Miguel v. Shell Oil Company*, In the
49th District Court of Zapata County, Texas

Dear Jack:

Enclosed is a copy of the February 7, 1994 letter from Mark
Cotham confirming that you may use information obtained in the
Hinojosa case in our case and vice versa.

Very truly yours,



Jeffery L. Hart

JLH/sp
Enclosure

cc/enc: Michael B. Silva, Esq.

P 05329

MITCHELL E. AYER
JOHN S. BRANNON
RHETT G. CAMPBELL
PATRICIA M. CHICOINE
W. MARK COTHAM
KIRK W. EVANS
DAVID A. FURLOW
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HOUSTON, TEXAS 77002

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February 7, 1994

VIA FAX: (512) 322-0808

Mr. Jeffery L. Hart
Cardwell & Hart
807 Brazos, Suite 1001
Austin, TX 78701

Re: *Rafael San Miguel, Trustee, et al. v. Shell Oil Company
and Shell Western E & P Inc.*, Cause No. 2981, in the
49th Judicial District Court of Zapata County, Texas

Dear Jeff:

I am in receipt of your February 4, 1994, letter. As I believe I indicated the other day, it is true that Mr. Dutton's use of materials other than in connection with the pending litigation is violative of the court's order. It was on this basis that Shell as well as myself was somewhat surprised to learn that Mr. Dutton, without consulting us first, had apparently been so using the material.

Nonetheless, Shell is more interested in a practical resolution of this matter. Accordingly, Shell is willing to treat any request by Mr. Dutton in one of these two cases as simultaneously a request in the other case. Thus, if he obtains information in your case or in the Hinojosa case, it can be used in the other case. This should not, however, be interpreted as allowing Mr. Dutton to, without prior express understanding, use information other than is provided in the protective order, in connection with any other matter.

I think this is workable and what the court's order requires. Please let me know if you have any questions or if I can be of assistance.

Very truly yours,



W. Mark Cotham

WMC/bcr

P 05330

WAGNER & HART
ATTORNEYS AT LAW
10000 N. F.W. HWY.
SUITE 100
HOUSTON, TEXAS 77060

February 17, 1993

USA F00111-519-3120

Mr. W. Mark Jordan, Esq.
Morris A. Campbell
600 Jefferson Square 1417
Houston, Texas 77002

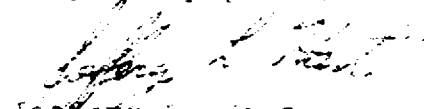
Re: No. 2961, Rafael San Miguel v. Shell Oil Company
in the 49th District Court of Tarrant County, Texas

Dear Mr. J:

Jack Sutton was advised by Shell personnel that he could make use of information obtained from Shell in connection with the Hinojosa lease lawsuit in his evaluation of our case and vice versa. Yesterday you made statements to the effect that any use of information obtained by him in one case for the other case would be a violation of the protective orders in the two cases.

Please advise me in writing your position on this issue.

Very truly yours,


Jeffrey L. Hart

WJH:sp

cc: Mr. Jordan

Shell Oil Company



One Shell Plaza
P.O. Box 2463
Houston, Texas 77001

September 1, 1983

Shell Western E&P Inc.
P. O. Box 576
Houston, TX 77001

Gentlemen:

SERVICES AGREEMENT

In response to your request that Shell Oil Company, a Delaware corporation (hereinafter called "SOC"), perform certain services for Shell Western E&P Inc., a Delaware corporation, (hereinafter called "SWEPI"), this is to confirm that Shell is willing to perform such services.

In consideration of the premises and the mutual agreements hereinafter set forth, SOC and SWEPI do hereby agree, as follows:

SOC's Services

During the term of this Agreement, SOC will provide or otherwise make available employees to perform (a) such administrative and staff services including, but not limited to, consultative, accounting, legal, procurement, computer, employee relations, finance, public affairs, tax, and technical services relating to the business conducted by SWEPI and, (b) such operating services, as SWEPI may from time to time request. This Agreement shall not extend to services that would require SOC or its employees or agents (a) to perform any such acts which would submit SOC to the jurisdiction of a foreign country or (b) to be authorized to do business in any foreign jurisdiction.

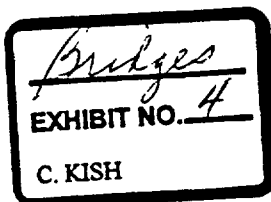
Performance Obligations

During such time as SOC employees are rendering services hereunder on behalf of SWEPI, those employees of SOC who are engaged in the performance of such services shall, unless otherwise provided in any separate agreement covering the services of any such employees, remain employees of SOC and continue to be paid by and to enjoy the benefits to which they are entitled as employees of SOC.

The obligations of SOC and its employees to perform any such services shall be subject to the business requirements of SOC, but SOC shall use its best efforts, without discriminating against its own business, to provide employees to perform such services.

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Shell Western E&P Inc.

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Compensation

To the extent such services shall be furnished, payment therefor shall be made by SWEPI to SOC, as reimbursement, at a rate equal to all direct costs (including, without limitation, salaries of the employees providing the services, labor burden, out-of-pocket expenses, expenses for computers, materials and supplies, and for travel and living, etc.) plus all applicable indirect costs, all of which costs, whether direct or indirect, shall be determined in accordance with generally accepted accounting methods and practices, consistently applied.

SOC and SWEPI shall each maintain adequate accounting records, which in reasonable detail fairly reflect the transactions contemplated hereunder, and shall maintain a system of internal controls, sufficient to provide reasonable assurances that the services are provided in accordance with this agreement.

All related books and accounts of either party applicable to the performance of its obligations hereunder shall at all reasonable time be open to inspection by auditors for the other party hereto.

Independent Contractor Status

Nothing contained in this Agreement shall constitute either party hereto the agent of the other party for any purpose. All employees shall be engaged in a capacity as an independent contractor with full control over the manner and method of performance subject to the work authorizations of SWEPI.

Standard of Care

While performing the services hereunder, SOC employees shall perform their duties in a manner they reasonably believe to be in the best interests of SWEPI, and with such care as an ordinarily prudent person in a like position would use under similar circumstances. In the event such standard of conduct is breached, SOC shall indemnify against liability or loss so occasioned.

Nothing contained in this Agreement shall be deemed to relieve either the directors or management of SWEPI from the performance of their respective duties or limit the exercise of their powers and authority under the law.

Term

This Agreement, upon execution hereof, shall be effective as September 1, 1983, and shall continue in effect indefinitely thereafter, subject, however, to termination at any time by either party giving thirty (30) days written notice to the other.

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Shell Western E&P Inc.

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If the foregoing terms and conditions of this Agreement are acceptable to you, please so indicate by signing and returning it to us.

Yours very truly,

SHELL OIL COMPANY

By

C. L. Blackburn
Executive Vice President

Accepted and Agreed to:

SHELL WESTERN E&P INC.

By X

Thomas F. Hart
President

Date

9/8/83

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AD

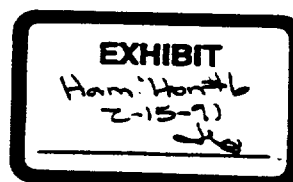
C O N F I D E N T I A L

SHELL GAS TRADING COMPANY

PRICING METHODOLOGY REPORT

November 9, 1989

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C O N F I D E N T I A L

SGTC - SOI/SWEPI PRICING METHODOLOGY REPORT

November 9, 1989

BACKGROUND

It is the goal of Shell Gas Trading Company (SGTC) to develop a fair commodity value at each sourcing location and to consistently apply the methodology described herein each month in establishing such fair commodity value.

This report sets forth in detail the pricing methodology SGTC uses to establish the fair commodity value for gas it purchases from Shell Offshore Inc. (SOI) and/or Shell Western E&P Inc. (SWEPI) under their respective Gas Sale & Purchase Agreements dated July 1, 1988. Attachment "A" restates the pricing provisions from each agreement. Changes in methodology will be formally recorded in a subsequent revision to this report. Likewise, changes in the transportation rates due to month to month discounts will be recorded in the month occurring. Planning and Economics review semi-annually published price tracker sources used by SGTC, and their recommendations are also incorporated as necessary. Transportation charges used shall reflect the actual charge in place during the month of the transaction. Those shown herein are for reference only.

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The natural gas industry has been evolving from a totally regulated industry toward an open market, less-regulated one (see Figures 1 and 2). With this evolution, gas commodity prices are established by commercial transactions and not by government edict, i.e. NGPA price categories.

Buyers and Sellers establish commodity pricing by direct negotiation, alternate fuel pricing formulae, alternate sales, private offers to purchase by pipelines and/or their marketing affiliates, published surveys compiled by brokers of estimated prices based on both options and actual sales, and various industry publications of price surveys of actual sales. SGTC works within this environment in establishing a fair commodity value for SOI and SWEPI.

I. COMMODITY PRICING

SGTC determines prices using private offer letters, alternate sales, published broker surveys and various gas industry publication surveys. The following is a general description of sources utilized.

A. PRIVATE OFFER LETTERS

SGTC uses private offer letters from Transco/TEMCO and SONAT Marketing to price SOI/SWEPI gas that was formerly dedicated to these pipelines and subject to an optional sale to them under a negotiated settlement. Other SOI/SWEPI gas connected to these pipelines but without an option to sell to them per settlement is priced by using one or more of the other pricing alternatives.

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B. ALTERNATE SALES

At certain locations there may be a residual ongoing sale made by SWEPI or SOI while a separate sale is also made by SGTC. If so, SGTC generally will use the actual SOI/SWEPI sale price to the third party in its price determination of a fair commodity value for gas SGTC purchases from SOI/SWEPI at those same locations. Two SWEPI fields Fandango and Rosita are examples of this and discussed below in more detail. If the actual sales made by SOI/SWEPI are sporadic and/or if they are not market representative, SGTC will often use price postings instead. At some indeterminate time in the future, it is anticipated that no sales will be made in SOI or SWEPI's name to a third party.

C. VARIOUS INDUSTRY SURVEYS

Industry pricing publications include Energy Planning Inc., Natural Gas Week, Inside F.E.R.C.'s Gas Market Report, and Natural Gas Intelligence. Information about each of these pricing sources follows:

1. Energy Planning Inc. (EPI) [Natural Gas Market Report, Table 1-A-1, Survey Marker Prices - published monthly]
 - a. Published monthly for spot gas contracts under one year in duration.

- b. EPI conducts a phone survey of approximately 40 producers, pipelines and marketers between the fifth and eighth working day of each month. The survey is done after the first business week in an attempt to reduce the inaccuracy due to "non-performance" volumes.
 - c. EPI uses its judgment and market understanding to screen unrealistic data out of the marker prices.
 - d. EPI has been publishing marker prices for Texas since 1984, and began publishing Louisiana marker prices in September, 1987.
2. Natural Gas Week (NGW) [Gas Price Trends - published every week]
- a. Contracts for up to 12 months, or longer contracts with price reopeners within 12 months.
 - b. Each week NGW surveys "a wide variety of industry sources" and publishes the arithmetic average of survey prices for each location and type of sale.
 - c. The prices published are at the wellhead, but they are categorized as interstate or intrastate by region (i.e., onshore LA; offshore TX, etc.) depending on the destination of the gas.

d. These prices have been reported since January, 1985.

3. Inside F.E.R.C.'s Gas Market Report (GMR) [Prices of Spot Gas Delivered to Pipelines - published every other Friday]

- a. Contracts for 30 days or less for delivery to pipelines in stated regions.
- b. GMR conducts a phone survey of more than 100 sources including large and small producers, pipeline affiliated and non-affiliated marketers, end-users and LDC's on a biweekly basis.
- c. Only actual buyers and sellers who are "directly familiar" with a specific pipeline location are included in the survey. Prices are for actual spot sales agreements, not unconsummated offers/bids.
- d. A survey range and mean are published; prices that deviate significantly from the other reported prices are thrown out.
- e. Prices published the first issue of the month are for spot gas flowing on the first of the month. Mid-month surveys (dated the 15th of the month) incorporate partial month contracts signed after the first of the month.

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f. These prices have been reported since October, 1986.

4. Natural Gas Intelligence (NGI) [Natural Gas - Gas Price Index, Table 1]

- a. Published weekly for 30 day supply transactions reported on a delivered to pipeline basis; wellhead basis is also available.
- b. Survey of actual sales from about 250 source companies of various sectors (producers to end-users).
- c. A range of high and low, and an index is reported. The index represents a simple arithmetic mean average of all reported prices for that individual pipeline.
- d. Judgment is used to exclude price sources that are unreliable due to special considerations such as force majeure, distress sale, affiliate transactions, and take-or-pay. However, NGI does not make judgments about market performance.
- e. Delivered to pipeline reported prices began in May, 1988, while wellhead prices have been available since November, 1983.

SGTC does not use Energy Planning Inc. or Natural Gas Week to establish its prices. Energy Planning is limited to Texas price reporting usually available 60 days after the fact (too late). Natural Gas Week is available only on a "wellhead" (and "regional" - onshore/offshore - LA/TX) rather than "delivered to pipeline" basis. Because of this, neither is used for monthly price determinations; however, Planning and Economics does use them in their semi-annual assessment of 'tracker' market responsiveness.

NGI and GMR both provide delivered to pipeline prices, which are market responsive and practical to administer for monthly financial reporting purposes. A discussion of price survey methods obtained from NGI and GMR is attached for reference (Attachment B).

D. BROKER SURVEYS

SGTC uses Broker Surveys such as Gas Daily and Natural Gas Clearinghouse only to a limited extent because of weaknesses in the the scope of sampling, rounding of figures, potential biases by Broker respondents due to their own marketing activities, and the added administrative efforts required to use daily pricing data.

Broker surveys include Natural Gas Clearinghouse (NGCH) and Gas Daily (formerly "Yankee") pricing publications. Both publications represent prices for one month "spot" transactions on a dry basis, \$/MMBtu, and delivered to a specific pipeline.

1. Natural Gas Clearinghouse

- a. Published monthly since March, 1985.
- b. Survey of industrial end-users and LDC's.
- c. Posts an estimate of the median price rounded to the nearest nickel.
- d. Emphasized that this survey does not represent offers to buy gas, therefore it is a perception of what price will be rather than what actually occurs.

2. Gas Daily

- a. Published daily since 1986.
- b. Telephone survey of mainly brokers, traders and gas pipeline companies with a few producers.
- c. May include actual sales, offers to sell and estimates of the market.
- d. To use this survey, you must determine the appropriate time frame during which the 30-day contract pricing is established. Primarily this time period occurs during the three-day period prior to the pipeline's nomination deadline, which is usually five working days prior to the spot contract month.

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II. TRACKER METHODOLOGY - GENERAL

SGTC averages GMR "index" and NGI "average" prices to establish the price for a given area (LA/TX) on a specific pipeline. In one situation the Natural Gas Clearinghouse posting is used. When price indexes are not available we use the mid-point of the range shown. As previously discussed, the spot contract price for a contract month is usually established during a three day period prior to the pipeline nomination deadline. GMR is reported bi-monthly and NGI, weekly. The first issue of GMR in the contract month is used to represent prices for that month. The mid-month issue reflects the gas price at that time, which is effected by call-back or interrupt gas. Such mid-month changes do not represent the majority of sales in the marketplace, therefore we do not use the mid-month prices. Likewise, price for the month of delivery published in the last issue of NGI in the month prior to the contract month is used for all pipelines with the exception of El Paso. El Paso has a late nomination deadline of two days instead of five workdays prior to the contract month, and the unique nature of the market on El Paso is such that actual sale prices don't really get established until the first of the month. This timing concept for 30 day spot gas is illustrated in Figures 3 and 4.

The NGI/GMR averaged price represents the area spot gas commodity price for a specific pipeline, which in most cases represents the market price for a particular SOI/SWEPI source.

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Texas and Louisiana are treated as different markets (see Figure 5). The Louisiana pricing method is to use the "pipeline specific" price for SOI/SWEPI gas sources directly (and sometimes indirectly) connected to that pipeline. In Louisiana, there are several offshore laterals that are jointly owned by major interstate pipelines. These include Bluewater (Columbia Gulf and Tennessee), Stingray (NGPL and Trunkline), UTOS (NGPL, Transco, etc.), HIOS (several), and Sea Robin (UGPL and Southern Natural). For Texas, we use a "market basket" pricing approach instead of the "pipeline specific" method. The reason for this is a) many interstate pipelines have capacity constraints in being able to move gas out of Texas to principal markets in the midwest-northeast, b) the large primary pipelines in Texas do not have contiguous laterals that run offshore as they do in Louisiana, c) many offshore Texas laterals are owned by secondary pipelines such as NNG-MOPS, CCTC, etc., d) during the winter period (Nov-Mar) when pipelines are near capacity, further bottlenecking occurs due to interstate pipeline withdrawals from storage fields in east Texas (e.g. Tennessee Gas Pipeline - Bear Creek Storage), and e) dramatic market differentiation is seen during the winter when the Texas intrastate prices fall \$0.20-0.30/MMBtu below the Texas interstate prices. The Texas "market basket" price consists of averaging two interstate and two intrastate pipelines - NGPL, Texas Eastern and Houston Pipeline, Valero, respectively. The Houston Pipeline posting is not available in NGI/GMR, therefore it is obtained from the Natural Gas Clearinghouse price publication. The NGPL posting is found in GMR under "NGPL - Texas (Gulf Coast)," and in NGI under "Southern Texas - NGPL". The Texas Eastern posting is found in GMR under "Texas Eastern Transmission

Corp. - Texas," and in NGI under "Eastern Texas - Texas Eastern." Lastly, the Valero posting is found in NGI under "Valero Natural Gas L.P. - Texas," and in NGI under "Southern Texas - Valero." This price is then used to calculate the source price for all supply sources along the Gulf Coast of Texas. For the Fandango and Rosita sources in south-southwestern Texas, SGTC uses the Valero posting plus alternate SWEPI sales in its price determination calculation. No UTTCO price postings are available for this purpose. The Bryans Mill field in east Texas and the west Texas fields both use delivered to pipeline pricing. For Bryans Mill we use NGPL, and for west Texas we use El Paso (mainline) prices from NGI/GMR.

For all onshore field sources the fair commodity value paid to SWEPI is the onshore "market basket" (TX - Gulf Coast) or "pipeline specific" (WTX; LA) price as appropriate. For the offshore field sources, the fair commodity value paid to SOI is the onshore "market basket" or "pipeline specific" price less a transport cost back to the field source. The transport cost is comprised of a transport rate, fuel charge, ACA charge, TOP surcharge (if any), GRI charge (if any), and gathering charge (if any) for each pipeline required to transport it from the source to an onshore interconnect that lies within the pricing area on that pipeline (Figure 6). The pricing area is generally the area that includes all interconnects with other pipelines in that Gulf Coast market (Louisiana or Texas), rather than the first interconnect realized upon landfall of a specific pipeline. The latter may get one to shore, but not necessarily to an area where significant transactions occur and thus will not represent a fair commodity value for the gas.

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The transport rate (\$/MMBtu) and all other charges are based upon the pipeline's then currently approved FERC filed tariff. The fuel charge can be either a flat \$/MMBtu or on a percentage of volume shipped basis. On a percentage basis, the current spot price times the fraction is used to calculate the dollar value. The fuel charge can be applied on either a volume received, delivered, or an average of both. The ACA charge is an Annual Charge Adjustment mandated by FERC as a user fee. The GRI charge is a Gas Research Institute legally imposed fee that is applied to the last transporter's rates prior to delivery to the end-user. The Take-or-Pay (TOP) surcharge is to allow the pipelines to recoup some of their take-or-pay costs associated with settlements of prior traditional PRODUCER/PIPELINE contracts. This surcharge has also been called a Producer Settlement Payment (PSP) charge. The gathering charge applies to fields that are connected to an offshore lateral by a gathering line rather than being directly connected to it.

III. DETAILED REVIEW BY SOURCES

In the detailed review below, the production areas of Texas and Louisiana are examined separately beginning in south Texas and moving clockwise around the Gulf Coast (refer to Figure 5).

A. TEXAS

As discussed in the section on "Tracker Methodology" above, generally SGTC uses a "market basket" price tracker for most fields along the Texas Gulf. This group of fields includes all

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fields delivered through SWEPI gathering facilities to the Mobil-LaGloria gas processing plant (see list below), the Sheridan and Provident City fields behind the SWEPI-Houston Central gas processing plant, Monte Cristo field, Los Indios field, Javelina/Rincon fields, North Padre Island 969 field, Matagorda Island 681 field, Brazos A-19/20 and A-23 fields, High Island 160 and High Island A-6/201 fields.

The fields behind the Mobil-LaGloria plant include: (see Figure 7)

McAllen Ranch	LaCopita
Guadalupe	Beaurline
Seeligson	Jones Ranch
Schmidt	Lips Ranch

SWEPI is responsible for gathering and delivering all gas from these fields to SGTC at the Mobil-LaGloria plant tailgate for redelivery into various pipeline meters as nominated by SGTC. Pipelines at the tailgate of Mobil-LaGloria include Channel/Houston Pipeline Co's. (intrastate), VITCO (intrastate), Transco, Trunkline, Natural Gas Pipeline Company of America, and Exxon Gas System Inc. (EGSI) (see Figure 8).

Gas from the Sheridan field and Provident City field is delivered by SWEPI to the tailgate of the Houston Central Plant on its gathering system. Title to the gas is considered to be passed at the plant tailgate where it can access United Texas Transmission Company, Houston Pipeline Company, Texas Eastern Transmission Company, and Tennessee Gas Pipeline Company. Since this gas readily accesses the pipelines in the onshore pricing area, it receives the "market basket" price.

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The Monte Cristo field is connected to Florida Gas Transmission and Valero Interstate Transmission. It can also be connected or diverted to SWEPI's Chapparro gathering line when capacity is available. SGTC pays SWEPI the "market basket" price for this gas because of its direct access to Florida, Valero, and Chapparro to Mobil-LaGloria.

The Los Indios field is operated by Union Pacific Resources on SWEPI's behalf. It is temporarily connected to Union's facilities which flow to Tennessee. SWEPI is in the process of installing facilities to connect it to Trunkline. Until the field is fully connected, SGTC will pass through to SWEPI the price it receives for the gas. Once fully connected to pipelines in the pricing area, SGTC will pay SWEPI the "market basket" price.

The Javelina/Rincon fields currently are logistically captive to the Valero pipeline systems. It cannot directly access a market representative number of pipelines in the pricing area. A transport charge must be incurred to move this gas on Valero to the Hagist Ranch interconnect where it can access NGPL. This transport charge consists of a Valero gathering charge of \$0.025, a VITCO rate of \$0.05 plus 1.5% fuel and a NGPL transfer charge of \$0.01, \$0.0018 ACA and 0.6% fuel. SWEPI is paid the south Texas "market basket" posting for gas delivered to the Hagist Ranch NGPL interconnect, or it is paid the posting less the foregoing transport for gas sold to SGTC at the field.

Shell Gas Pipeline Company transports NPI 969 field gas to Transco in NPI block 948 for a \$0.126 per MMBtu gathering charge. Transco transports this gas to Corpus Christi Transmission Company (CCTC). There are three (25 mile) units to the CCTC interconnect. The current Transco rate is \$0.025 per MMBtu per unit (per Attachment C), \$0.0018 ACA, and 0.6% fuel. CCTC charges a \$0.01 transfer fee per MMBtu to deliver the gas to market representative pipelines (Trunkline, NGPL, etc.) in the pricing area. SOI receives the "market basket" price less the foregoing transportation costs. SGTC takes title to the gas at the platform or wellhead.

For the MI 681 field, SGTC again takes title at the platform and transports the gas to Tivoli, an onshore point in the pricing area that is representative of the market. Shell Gas Pipeline Co. initially receives the gas and delivers it to Northern Natural Gas - Matagorda Offshore Pipeline System (MOPS) in MI 686 for a flat gathering fee of \$0.094 per MMBtu. Northern Natural delivers the gas to Tivoli for \$0.0612 per MMBtu plus 0.75% fuel. At or near Tivoli, this gas can access HPL, Channel, FGT, UGPL, NGPL, and a little further on, EGSI. One half of NNG's GRI charge of \$0.0151 is inputted in the transport fee to allow for gas SOI would have sold to Texas end-users.

SOI's Brazos A-19/20 and A-23 fields were previously dedicated to Transco (50%) and Columbia Gulf (50%) under traditional gas sales agreement. A settlement of take-or-pay and other issues

was made with both pipelines. Transco currently has a residual obligation as part of its settlement with SOI to purchase any gas SOI is unable to sell up to an aggregate amount from all SOI fields of 150 MMBtu/d (using 1:1 MMBtu to Mcf basis). At Brazos, Transco's take obligation covers its original dedicated share of 50%. SGTC pays SOI as a fair commodity value the amount it is able to receive from Transco (or its affiliates), which is determined from Transco's monthly private offer letter. The offer letter also states a per unit transport rate with associated fees and charges. The fair commodity value that SOI receives at the platform is the price stated less the appropriate transport cost based on the distance of the platform to the onshore pricing area. The onshore pricing area is defined by Transco as their mainline compressor station 30. Note there is one small SWEPI field, "Bigfoot", which is also subject to this pricing mechanism should SGTC ever purchase gas from there. It has not done so to date.

In Columbia Gulf's settlement of Brazos (and VM144) contracts with SOI, it negotiated a full release of the gas with the right to recall by matching Shell's price alternatives. Since the Brazos gas is fully released and Columbia Gulf has no obligation to buy, SGTC applies the "market basket" price less transport in determining a price to pay SOI. The transport cost is based on Transco's transportation rates offered to shippers for transport on its Central Texas Gathering System. This cost is based on the per unit rate (Attachment C) times four units (the distance from the station 30 compressor to the fields), plus \$0.0018 ACA and 0.6% fuel.

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High Island A-6 and 160 fields are connected to the Black Marlin Pipeline, which traverses the Gulf arriving onshore into the Texas City pipeline loop. This loop is very restrictive in regards to the market it accesses. In order to reach market representative pipelines in the Texas pricing area, SGTC must transport gas on Black Marlin and HPL to representative pipelines. Black Marlin is owned by HPL, who is in turn owned by Enron. The transport rate on Black Marlin is \$0.05 per MMBtu. HPL's transport rate is \$0.10 per MMBtu when onshore gas prices are below \$1.99 per MMBtu, and \$0.15 when greater than that. SGTC uses the "market basket" price as the pricing area value, and deducts the appropriate HPL and Black Marlin transport costs to arrive at wellhead price to pay SOI.

1. FANDANGO/ROSITA FIELD SOURCES

Alternate sale prices combined with a pipeline specific tracker are used on a volumetrically weighted basis to determine the fair commodity value SGTC pays SWEPI for Fandango/Rosita gas. The Fandango/Rosita gas is essentially captive to the Texas intrastate market as Valero and UTTCO are the two primary pipelines emanating from each source. SWEPI has historically sold directly to Valero or UTTCO for a significant portion of the available production. Because of this, for any volume SGTC purchases from SWEPI at these locations, a volume weighted price is determined. The price is based on the SWEPI volumes sold to Valero and UTTCO at their actual prices, and the SGTC volume based on

the Valero price tracker (NGI/GMR averaged). Any SWEPI gas used for PVR requirements at other locations such as the Houston Central Plant is priced at the UTTCO/Valero avoided price and considered as such in this calculation.

2. WEST TEXAS/EL PASO

Several SWEPI fields in west Texas are gathered behind processing and treating facilities such as the Wasson Plant, the Denver Unit Plant, Waha Plant, Terrell Plant, Jal Plant and TXL Plant (see Figure 9). SWEPI made a settlement with El Paso releasing and abandoning its gas. As part of the settlement SWEPI is obligated to supply El Paso 35,000 MMBtu/d over a five year period, with possible extension under certain circumstances. The remaining volume is free to be sold in the spot market. Given the unique gathering and processing demographics for west Texas, SWEPI is obligated to transport the gas from the field/plant vicinity to the El Paso mainline (representative market). SGTC takes title to any gas purchased at the El Paso mainline. The fair commodity value SGTC pays SWEPI is the NGI/GMR averaged posted price on El Paso's mainline.

3. EAST TEXAS

Occasionally SGTC purchases gas from SWEPI at the Bryans Mill field. This field has been released under the SWEPI-NGPL settlement. SGTC pays SWEPI the average of the

GMR-NGPL Texas (Gulf Coast Line) onshore posting and the NGI-NGPL posting (shown as Eastern Texas - NGPL). No transportation deducts are taken.

B. OKLAHOMA

SWEPI's Ft. Cobb (East and West Caddo) gas was released under the Tennessee settlement. This gas flows into Reliance Pipeline Gathering System which connects with NGPL. Whenever SGTC purchases gas from SWEPI at this location, it pays the NGPL Oklahoma price posting less a \$0.20 Reliance gathering charge. The Camerick I-34 field was released under the SWEPI-NGPL settlement. SGTC purchases this gas from SWEPI at the NGPL Oklahoma price posting (average of GMR and NGI) with no transportation deducts. The Inside FERC GMR-NGPL posting is shown as NGPL-Oklahoma, Kansas in the publication. The NGI-NGPL posting is shown as Texas Panhandle/Anadarko Basin/Oklahoma-NGPL (non-triangle).

C. LOUISIANA

The pricing methodology for Louisiana (onshore and offshore) sources is to use a "pipeline specific" price less appropriate transport costs and is summarized below by pipeline (see Figure 10).

1. ANR

SOI fields directly connected to ANR include SMI 10, SMI 58, EI 175, EI 188, and EI 259. Kings Bayou is the only SWEPI field connected to ANR. Both SOI and SWEPI effected a settlement with ANR on July 1, 1988. SGTC pays SWEPI a fair commodity value based on the ANR-onshore Louisiana spot price (NGI/GMR averaged) for gas purchased directly onto ANR at Kings Bayou. SGTC pays SOI a fair commodity value based on the same onshore spot price less the ANR offshore lateral transport cost to bring the gas to the onshore pricing area. SGTC enjoys a site specific discounted ANR transport rate (\$0.11 per MMBtu) arising from the SOI/SWEPI settlement, which is passed through to SOI. However, as of July 1989, ANR has offered a generally available discounted rate of \$0.09 per MMBtu which is more favorable than the site specific SGTC discount. SGTC uses the lesser of the settlement or any such publicly offered discount transport rate. In addition to this rate, the total ANR transport cost should include 1% fuel, \$0.0017 ACA, and a \$0.0265 TOP surcharge.

2. COLUMBIA GULF

Three fields, Brazos A-19/20 & A-23 and Vermilion 144/159, were previously dedicated under a traditional long term contract. This was discussed under the Texas-Brazos detailed methodology review. From this review it is

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important to note here that this gas is subject to recall by Columbia Gulf at Shell's alternate price. Vermilion 144/159 flows via a Columbia Gulf gathering line into the Bluewater offshore lateral. SGTC's fair commodity value to SOI is the onshore (Louisiana) Columbia Gulf price (NGI/GMR averaged) less transport. Columbia Gulf's transport cost for shipping this gas across both its gathering line and its ownership in Bluewater is its currently filed rate of \$0.1135 per MMBtu, \$0.002 ACA and 0.939% fuel. Grand Isle 33 Field is also connected to Columbia Gulf via the terminus of Exxon's Grand Isle gas processing plant. SOI has a 'benefits' exchange with Exxon wherein they receive transport of the gas and liquids and Exxon receives the processing benefits all of which is on a MMS royalty keepwhole basis. SGTC takes title to the gas at the tailgate of Exxon's plant. The fair commodity value SGTC pays SOI is the onshore Columbia Gulf tracker (NGI/GMR average) without any transport deduct.

3. NATURAL GAS PIPELINE COMPANY

SOI and SWEPI made a settlement with NGPL providing for release and abandonment of the gas contracts. The Louisiana fields covered are EI 330, SMI 115, VM 221, VM 320, VM 340, WC 170, and WC 565. The onshore NGPL (NGI/GMR averaged) price posting less any appropriate transport is used as the fair commodity value paid to SOI.

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EI 330 can access both Sea Robin and a combined Columbia Gulf - Bluewater route so a transport deduct has been calculated using 50% of the rates on each lateral or route. For Sea Robin this rate is \$0.1552 per MMBtu, \$0.0018 ACA and 3% fuel. For the combined Columbia Gulf - Bluewater route, the rate is \$0.1135 per MMBtu, \$0.002 ACA and 0.939% fuel.

SMI 115 is transported on Transco's SE Lateral. Prior to NGPL's settlement and release of this gas to SOI, it had an exchange agreement for it with Transco, therefore SMI 115 gas is priced using NGPL trackers less Transco transport. It takes 9 (25 mile) units to transport the gas to an equivalent onshore area pricing point. The current rate is \$0.02 per unit, \$0.0018 ACA, plus 1.2% fuel.

The remaining fields, VM 221 (and 223), VM 320, VM 340, WC 170 and WC 565 all flow on the Stingray offshore lateral to shore at UTOS. UTOS is Stingray's first interconnect upon landfall that is representative of the pricing area. Transport costs to UTOS from the Stingray terminus include \$0.01 per MMBtu, \$0.0017 ACA, plus 0.88% fuel. The Stingray transport cost is \$0.1001 per MMBtu, \$0.0017 ACA, and 1.8% fuel. For VM 221, VM 340 and WC 170 a \$0.01 per MMBtu NGPL gathering charge is included to cover transport from the field to Stingray.

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4. SOUTHERN NATURAL GAS COMPANY

SOI and SWEPI also have a settlement with SNG made October 1, 1987. Essentially GI 75/76, MP 290, MP 310, SP 62, SP 65, SP 70 and WD 105/105E were immediately released from contractual commitment to SNG. All Oklahoma contracts have been terminated and the gas released. Lips Ranch and EC 240 had residual obligations, which have expired and the gas is now released. The Alcorn field will continue to be dedicated to SNG, who has the obligation to purchase this gas under the original contract terms. As part of this settlement SOI, SWEPI and SGTC have the benefit of discounted transportation of \$0.10 per MMBtu from any of the Shell fields to the onshore pricing area. SGTC passes this discounted transport rate back to SOI/SWEPI anytime it uses a price posting to develop the purchase price. SOI and SWEPI currently receive a monthly private offering letter from SONAT Marketing for this gas. SGTC uses this offering as the fair commodity value upon which to pay SOI and SWEPI as it currently reflects the best market alternative. Every six months we review the methodology to determine whether the SONAT Marketing price or a price tracker less transportation is representative of the market.

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5. TENNESSEE GAS PIPELINE COMPANY

A settlement was made between SOI, SWEPI and Tennessee effective December 31, 1988. SWEPI fields included La Copita, Fandango, San Ramon and Seeligson in Texas, Lake Washington in Louisiana, and Ft. Cobb in Oklahoma. SOI fields included Eugene Island 18/19, Halter Island et al, Main Pass 69, Sabine Pass 10/17, South Pass 27 (Federal) and West Delta 30. Tennessee's marketing affiliate, Tenngasco, occasionally offers to purchase gas from a couple of sources but Tenngasco does not make offers consistently or to purchase gas from a sufficient number of sources to use it as an alternate source on which to base payment to SOI/SWEPI unlike that of SONAT Marketing and Transco previously discussed. SGTC uses an onshore Louisiana-Tennessee posting (NGI/GMR averaged) in determining the fair commodity value to be paid to SOI and SWEPI. For onshore fields excluding Texas, the posting without a transportation deduct is used as the fair commodity value paid to SWEPI. SOI's offshore fields receive a fair commodity value from SGTC equivalent to the onshore posting less transport. Tennessee's transport is mileage based with a base rate of \$0.0658 per MMBtu for hauls of 0-200 miles, which is the appropriate haul required to move gas from offshore to the onshore pricing area. The transport costs also require \$0.0018 ACA, 0.9% fuel and an offshore lateral charge. The lateral charge is typically \$0.10 per MMBtu, however a special limited term public

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discount of \$0.065 per MMBtu was offered per Tennessee's letter dated April 20, 1989. Although Sabine Pass 40 was not subject to the settlement, it is a new field which flows through Sabine Pass 10/17 and is subject to Tennessee's transport rates and is therefore also priced by this methodology.

6. TRANSCONTINENTAL GAS PIPE LINE COMPANY

A settlement was effected with Transco October 1, 1986 and subsequently revised November 1, 1988. Settlement revisions were implemented to modify certain transport benefits to SOI/SWEPI that FERC mandated no longer complied with Transco's LDC customer settlement compliance tariff filing. As discussed under the detail methodology for SOI's Brazos A-19/20 field, Transco has a residual obligation to purchase up to 150 MMBtu/d of formerly dedicated gas. Transco also has a total purchase plus transport obligation for all Shell gas on their system of 450 MMBtu/d.

For SOI and SWEPI fields that were previously dedicated under traditional pipeline contracts with Transco, SGTC pays SOI and SWEPI a fair commodity value as determined per Transco's monthly offering letter. These formerly dedicated fields include SOI's EI 100, EI 128, EI 136, 50% of HI 179/193, 6% of MC 194, SMI 106, SMI 130, SMI 132, ST 292/279, ST 300/301, VM 25, VM 76, VM 369/370, 1.8% of WC 633, and WD 34; and SWEPI's Elba, Olive, S. State Line and Thomasville.

Fields that were not previously dedicated to Transco but which have access to Transco's pipeline receive a fair commodity value from the onshore pricing area posting less all applicable transport costs. For Louisiana, these fields are SWEPI's onshore Liberty field and SOI's GC 19, GC 65, SS 259/258, and ST 295 fields. Gas sold from the Liberty field in Mississippi is valued at the Inside FERC/GMR-Transco Mississippi, Alabama posting averaged with the Natural Gas Intelligence-Transco (65&N) posting, with no transport deduct. SOI's offshore fields are priced at the average of the GMR-Transco onshore Louisiana and NGI S. Louisiana-Transco (Elsewhere) postings less transportation as discussed below. For GC 19, GC 65, and ST 295 the transport rate is \$0.09, plus 2.25% fuel, \$0.002 ACA and a \$0.124 Transco Gas Gathering charge. For SS 259/258 the transport rate is \$0.08, plus 2% fuel, \$0.002 ACA and a \$0.03 Transco Gas Gathering charge.

7. TRUNKLINE GAS COMPANY

A settlement was effected with Trunkline on November 1, 1988. The traditional contracts have been abandoned and the gas released. SOI's HI A-350 and SS 274 fields were covered under this settlement. However, SOI's HI A-350 is still dedicated to Trunkline through October 31, 1990, at which time it terminates (SOI filing for abandonment still required). For these fields and the previously undedicated SS 189 field connected to Trunkline's offshore lateral,

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SGTC uses a GMR/NGI averaged onshore Louisiana-Trunkline posted price less appropriate transport. The Trunkline transport rate is \$0.1289 (effective July, 1989), plus 0.6% fuel and \$0.0017 ACA for gas going offsystem in the onshore pricing area. At SS 189 there is an additional gathering charge of \$0.038 paid to Shell Gas Pipeline Company.

8. UNITED GAS PIPELINE COMPANY

SOI and SWEPI made a settlement with UGPL in early 1987. All contracts were abandoned and the gas released. As a part of the settlement discounted transportation was given to SOI and SWEPI, and eventually assigned to SGTC. Any SGTC price calculations that include a transport deduct uses the lower of the settlement discounted transport or publically offered rates. The SWEPI fields include Gibson-Humphries, Turtle Bayou, Weeks Island, and West Lake Verret. These fields are priced at the GMR/NGI averaged-Louisiana onshore UGPL price posting with no transportation deducts. The SOI fields are Bay Marchand 2 and 50% of the volumes from HI 179. The same onshore UGPL posting is used less transportation. For Bay Marchand, SGTC's settlement discounted rate is \$0.1172, plus 1% fuel and \$0.0018 ACA. High Island 179 is connected to Transco's offshore lateral, which connects to UGPL onshore in the pricing area. The transpost cost is 6 (25 mile) units at \$0.02 per unit, \$0.018 ACA and 0.6% fuel.

ATTACHMENTS

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ATTACHMENT "A"

I. SGTC/SOI PRICING PROVISIONS PER AGREEMENT DATED JULY 1, 1988

"(a) The price to be paid by SGTC to SOI for all Production purchased hereunder shall be the commodity value of the Production at the applicable field delivery points as reasonably determined by SGTC. SGTC shall determine the commodity value by consideration of reliable public sources of price and market information, prices established at major interconnect points of onshore interstate pipelines servicing the production area generally identified on Exhibit B attached hereto and incorporated herein by reference, posted prices for comparable gas, and prices paid by SGTC and other purchasers in comparable arms'-length sales of like-quality gas in the same field or, if necessary to obtain a pricing sample, in the same area. In determining both comparability and commodity value SGTC will make appropriate adjustments for the location of the gas, time of execution, term, duration, market(s) served, quality, volume, and other such factors as may be appropriate to reflect the value of the gas. The determination of, and subsequent revisions to, commodity values at the field delivery point shall all be determined from time to time by SGTC, which shall act reasonably, in good faith, and in accordance with good industry practice. SGTC shall notify SOI in writing of all determinations and revisions on or before the fifth working day of the month following the month of production. SOI shall be deemed to have accepted such

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determinations and revisions unless it takes exception thereto by giving written notice to SGTC on or before the last day of the second calendar month following the month of production. Should SOI take exception to any determination or revision, it shall then be negotiated to the mutual satisfaction of both parties. In the event that a mutually satisfactory price cannot be agreed upon, SGTC and SOI agree to release such Production from this Agreement for sale by SOI to other parties and without further obligation to purchase by SGTC. In no event shall the price paid by SGTC hereunder exceed the applicable maximum lawful price, if any, established pursuant to the Natural Gas Policy Act, plus any reimbursements for production related services allowed by Section 110 of such Act.

(b) SGTC shall reimburse SOI for 100% of production, severance or similar taxes imposed on the extraction of natural gas from the ground. The price paid to SOI under subsection (a) shall include reimbursement under this Agreement.

(c) Information supporting SGTC's determinations and revisions of commodity values of Production purchased hereunder shall be maintained by SGTC for a period of six years from the month of production unless a longer period is requested by SOI as a result of an audit. SOI shall have the right to inspect and audit such information during business hours upon reasonable notice to SGTC."

II. SGTC/SWEPI PRICING PROVISIONS PER AGREEMENT DATED JULY 1, 1988

"(a) The price to be paid by SGTC to SWEPI for all Production purchased hereunder shall be the commodity value of the Production at the applicable field or plant tailgate delivery points as reasonably determined by SGTC. SGTC shall determine the commodity value by consideration of reliable public sources of price and market information, prices established at major interconnect points of those pipelines servicing the production area generally identified on Exhibit B attached hereto and incorporated herein by reference, posted prices for comparable gas, and prices paid by SGTC and other purchasers in comparable arms'-length sales of like-quality gas in the same field or plant tailgate or, if necessary to obtain a pricing sample, in the same area. In determining both comparability and commodity value SGTC will make appropriate adjustments for the location of the gas, time of execution, term, duration, market(s) served, quality, volume, and other such factors as may be appropriate to reflect the value of the gas. The determination of, and subsequent revisions to, commodity values at the field or plant tailgate delivery point shall all be determined from time to time by SGTC, which shall act reasonably, in good faith, and in accordance with good industry practice. SGTC shall notify SWEPI in writing of all determinations and revisions, on or before the fifth working day of the month following the month of production. SWEPI shall be deemed to have accepted such determinations and revisions unless it takes exception thereto by

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giving written notice to SGTC on or before the last day of the second calendar month following the month of production. Should SWEPI take exception to any determination or revision, it shall then be negotiated to the mutual satisfaction of both parties. In the event that a mutually satisfactory price cannot be agreed upon, SGTC and SWEPI agree to release such Production from the Agreement for sale by SWEPI to other parties and without further obligation to purchase by SGTC. In no event shall the price paid by SGTC hereunder exceed the applicable maximum lawful price, if any, established pursuant to the Natural Gas Policy Act, plus any reimbursements for production related services allowed by Section 110 of such Act.

(b) SGTC shall reimburse SWEPI for 100% of production, severance or similar taxes imposed on the extraction of natural gas from the ground. The price paid to SWEPI under subsection (a) shall include reimbursement of such taxes. SGTC is liable for all tax reimbursement under this Agreement.

(c) Information supporting SGTC's determinations and revisions of commodity values of Production purchased hereunder shall be maintained by SGTC for a period of two years from the month of production unless a longer period is requested by SWEPI as a result of an audit. SWEPI shall have the right to inspect and audit such information during business hours upon reasonable notice to SGTC."



Natural Gas INTE
the weekly gas market newsletter
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ATTACHMENT "B"

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PRICE SURVEY METHODS AND OPERATION OF INTELLIGENCE PRESS INC.

Intelligence Press Inc., has been reporting natural gas market prices since September, 1981, when the newsletter "Natural Gas Intelligence" was first published. At first the reports were of individual instances of deregulated transactions. As the market developed, NGI began publishing the first table of wellhead spot and long term market prices in November, 1983. The table has continued to be published on a weekly basis since that date.

In May, 1988, responding to continued development of the natural gas market, Intelligence Press Inc., began publication of a weekly "Gas Price Index" which includes price tables for spot transactions in the producing area at the point of delivery into a major pipeline, and a table for spot transactions at city-gate delivery points. These tables are the result of price surveys conducted weekly by the NGI/GPI staff. The Gas Price Index also includes prices reported for supplies of Canadian spot gas delivered to the U.S. border, and prices for alternate fuels, including fuel oil, residual oil, propane and crude oil, which are printed by arrangement with outside companies which survey those areas.

The NGI newsletter also includes monthly tables for pipeline market out prices and pipeline commodity rates based on information collected from the pipelines.

Publication of price information by Intelligence Press represents a response to the need of a commodities market for very current trading information. The natural gas market lacks a central register that would yield cumulative results of actual transactions such as an established stock or futures market. Nor does government collect and publish current price information. While a Futures market is planned for the industry, the experience of other commodities markets has shown that that type of centralized record will not fulfill all the needs of buyers and sellers for detailed price information, and there will continue to be a need for the type of price information provided by NGI/GPI.

There is an inherent handicap on any private price survey, which, unlike government, cannot command submission of data from the entire market. To overcome this handicap, Intelligence Press has developed survey methods, design and sources aimed at providing as close a reflection as possible to market conditions. In the producing regions this is done through the use of a market model concept that calls for inclusion of price information from a full range of market participants for each published price quote. The aim is to include a broad range of diverse and balanced sources to provide a cross-check on the information as it is gathered. Also, the surveys are rigid in the specifications for information to be included. In compiling averages, the best available market share figures are used for weighting.

A basic factor in any survey is the dedication of the publication to that survey expressed in the amount of resources expended. Intelligence Press, Inc., has included the wellhead price survey as an integral part of its market newsletter operation since 1983. With the addition of the Gas Price Index, the price reporting function has been expanded. Intelligence Press was the first natural gas newsletter to set up a separate publication and staff to handle price survey and reporting. The company also contracted for the services of natural gas consultant, Edwin Hardy, of Fairfax, VA, to help in setting up the tables and continues to rely on him for advice on improving our methods and operations.

Intelligence Press Inc., is wholly owned by Editor/Publisher Ellen Beswick (Steis) who has been a journalist for 25 years. In keeping with the journalistic ethic of providing an unbiased report, company policy rules out any financial interest by the owner or editorial staff in any company with an interest in natural gas trade. The two publications, Natural Gas Intelligence and the Natural Gas Intelligence Gas Price Index, along with an annual trade fair, GASMART, are the only products or services of Intelligence Press, Inc.

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In the last few years, the industry has begun the practice of indexing contracts to published spot prices. In this connection, Intelligence Press has received numerous requests for information regarding its survey methods and operation from market participants interested in using its tables for indexing. In 1988, the company responded to a survey being conducted by the Federal Energy Regulatory Commission which was studying price reports of various publications. The NGI/GPI response was compiled in a very short time frame. Since it is obvious, however, that the queries from the industry and government represent a genuine and valid need for information, Intelligence Press has expanded on its response to the original FERC questionnaire and is making that response public.

This is in line with the central purpose of the publishing company, which is to provide needed information in usable form for those buying, selling, planning and operating in the market.

ASSUMPTIONS MADE IN COMPILING THE PRICE DATA

The NGI/GPI surveys assume that identifiable and distinct markets exist for the trading of natural gas on a short-term or spot basis and for the long term. It is assumed that these markets are generally composed of a relatively large number of buyers and sellers who compete actively and are highly responsive to change in supply and demand conditions.

Also, it is assumed that dry pipeline quality natural gas measured on a Btu basis is heterogeneous and that natural gas represents a basically generic commodity in which premiums or discounts paid according to quality do not effect market price significantly. The points for recording transactions, i.e., the wellhead, delivered into a pipeline in producing regions, and at the citygate, were chosen because those are the points at which most transactions take place in the current market.

Further, it is assumed that while it is not possible to survey the market in its entirety, it is possible to develop a survey research design that will ascertain useful price information that is indicative of price levels in different markets. In addition, by aggregating the data derived from examination of the individual markets surveyed, more general, overall information is available on a regional and national scale.

Information Collection Methods

A. SOURCES

The universe for price data includes all buyers and all sellers of natural gas sold on a spot basis in the lower 48 United States. A listing of all possible sources is not practical for our purposes, and to our knowledge, has never been compiled by anyone. NGI/GPI potential sources are culled from a variety of source material, including numerous industry directories, FERC filings, names flagged by NGI's news staff in pursuing story material or attending conferences, names picked from reading other general or trade publications, and contacts mentioned in conversations with others in the business. The number of sources are constantly being expanded.

NGI/GPI's total number of source companies has grown to approximately 250. The individual reports of price for specific transactions vary from a source which quotes a price for a single transaction to a source which may report numerous prices from numerous transactions in different markets.

A market model concept is employed as a foundation for the survey method. The market model seeks to provide an unbiased cross section of the full range of natural gas traders and an equal input of buyers and sellers representative of trading on the specific pipeline in the named geographical area. The model calls for representation from small and large producers, regional and national marketers, pipelines, pipeline marketing affiliates, distribution companies, electric utilities, and industrial end users.

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Careful consideration is given to the inclusion of sources in the surveys. The continued use of a source as part of a market model is dependent upon the credibility of the source and therefore the reliability of the source's information. A reported price is not excluded by NGI/GPI unless it is influenced by a special consideration. A report of a price that significantly differs from other prices is questioned to ascertain that it falls within a criteria that excludes special considerations such as take or pay settlement, force majeure, distress sale or inter-company/affiliate transactions.

If confidence in a source's information is sufficiently called into question, the source is deleted and replaced as a constituent of a market model. However, NGI/GPI does not assume it is a judge of market performance and use some information while excluding other information because that information does or does not fit into a preconceived notion of what the price level for that market model should be at the moment. We adhere to a belief expertly expressed by the editor of Petroleum Argus, an oil market survey, that price surveys should "remain the messengers and not the fabricators of prices."

A publication also cannot assume that it is immune to inaccurately reported information, either by intention or accident, but by careful selection of reliable sources and sufficient quantity of raw data such a possibility can be minimized.

Sources are promised confidentiality and NGI/GPI does not reveal its sources in print or otherwise, unless the source specifically waives the promise of confidentiality.

B. TIME FRAME

The survey is conducted weekly by the NGI/GPI staff through direct telephone and telefax communication. Only information obtained first-hand by staff from sources directly involved in specific transactions is used. Sources to the survey voluntarily participate and receive no compensation for participation.

The NGI/GPI price surveys are historic price reports as opposed to on-line wire service price reports such as Telerate or Reuters which focus on hourly and daily trading activity. The surveys assesses the weekly performance of gas trading rather than attempting to pick the price at any specific time during the survey week. While gas trading has days in which very discernible movement is seen, overall, gas trading is intermittent with days passing often without more than occasional trades. Therefore at this point in time, a weekly survey is a practical approach to monitoring market activity. Also a weekly survey allows more time to thoroughly examine trading activity and "check out" curious trading activity and focus on special events or markets exhibiting unusual price movement.

C. RANGE

The range of prices reported in any of the tables represent the lowest price and the highest price reported for that particular pipeline, region or citygate, and are shown to illustrate the extreme distribution of the prices encountered during the survey week. No other significance is intended or should be assumed.

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NGI GAS PRICE INDEX

The Gas Price Index includes three principal tables based on spot gas price information collected by the GPI staff on (1) specific delivered into pipeline prices, (2) region-wide delivered into pipeline price averages, and (3) separate city-gate prices for electric and gas utilities. Two other tables which appear every week are supplied by outside companies. Through an exchange agreement, Canadian Enerdata Ltd., a Canadian market publication, supplies GPI with Canadian border prices, and the alternative fuel prices, are supplied by the computer-access Telerate Energy Services Systems.

The GPI staff produces two primary surveys of spot gas prices. One survey reflects spot prices tracked at the point of sale where natural gas sold on a spot basis is delivered to an established receipt point of either an intra or interstate pipeline within separate geographical regions. The distinction between intra and interstate pipeline sales is made necessary as two very distinct markets exist between the two, exhibiting great difference in price levels, market behavior and supply and demand factors. The second survey tracks prices for delivery of spot gas sold to and delivered to gas distributors and electric utilities within specific geographical regions. The choice of these points of sale was made because they represent critical steps in the establishment of overall natural gas prices traded on a spot basis and further offer distinct market focal points where uniformity of data exists.

The GPI price surveys are incorporated into a survey system that is a sequential research design. Simply, the framework or survey design begins with individual markets for gas delivered to a specific pipeline in a specific region. A market model is constructed composed of sources that are indicative of the trading activity encountered in that market. The sources used in these market models are surveyed on a regular basis weekly. The survey then assumes that individual markets form a network configuration from which regional and national averages can be distilled.

A basic premise of the GPI surveys is to focus on specific types of transactions in the belief that uniformity of data will produce more accurate and consistent results and data. Price information is reported for 1-month (30-day) or less natural gas sales sold on an interruptible basis only. For survey purposes the American Gas Association's (AGA) Glossary for the Gas Industry definition of "interruptible service" is used for all interruptible basis transactions. The survey further defines spot transaction as a one-time purchase price based on a "best efforts" arrangement similar to the AGA definition.

Price as defined for GPI Tables 1 and 2 are reported prices expressed in dollars per British Thermal Unit (Btu) for dry gas. The surveys use the Department of Energy's (DOE) definition of dry gas as contained in Notes and Sources for the Natural Gas Section, Note #3, as contained in Energy Information Administration's MONTHLY ENERGY REVIEW. That definition describes dry gas as the result of extraction and the subsequent reduction in volume resulting from the removal of natural gas liquid constituents at natural gas processing plants.

The price is the total delivered to the pipeline price and presumably would cover and include any taxes and/or gathering and processing charges incurred by the seller.

Each week current spot gas and alternate fuel price movement is tracked in either NGI or GPI. In addition, depending on the particular week on the month, either the previous month's average spot gas price movement is contrasted against current performance or, upon the start of the next month's spot bidding, future movement is tracked and compared to current delivery price levels.

In recognition of the industry's need for historical price information NGI/GPI offers various perspectives of past price performance. The NGI wellhead price table offers the longest historical report of weekly, monthly and yearly spot and longer term prices available (since November 1983). The data series is available to subscribers upon request at no charge. Also various components of the wellhead price information is contained in the GPI's historical trends tables.

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Four historical tables or charts appear during the course of each month in GPI that report various price trends of use to gas market participants and observers. For producing area prices, trends tables appear for prices of spot gas delivered to individual pipelines (as shown in GPI's Table 1) that show monthly, quarterly and annual price movement; another table shows similar movement of regional delivered to pipeline prices (as shown weekly in GPI's Table 2) again on a monthly, quarterly and annual basis (this tables also reproduces NGT's spot wellhead prices in monthly, quarterly and annual manner.

A monthly listing of average city-gate delivered spot gas costs is shown for selected utilities showing current and previous month's spot costs and volumes taken as well as a comparison to the same time one year prior. A graphic representation of a market clearing model that illustrates the competition between oil and gas over nearly two years is presented monthly.

TABLE 1

In the Gas Price Index Table 1, each of the following market participants is included in the market models for each price quote:

- 1.-"pure producers" or producers engaged in spot sales of natural gas generally not involved in the ownership of gathering, processing or transportation facilities.
- 2.-"super producers" or producers that not only market their own production but are also involved in one or more downstream operations such as gathering, processing and transportation of their own production and may also provide such services to other affiliated and non-affiliated producers as well.
- 3.-"regional marketers", that being resellers of gas not typically producers of gas and who obtain their source of supply from one or two regional source areas and generally direct their marketing efforts at one or two end-use markets. Gas gatherers and processors are included here when their source and market performance is regional as described above.
- 4.-"national marketers", that being resellers primarily of others' gas to numerous markets nationwide who obtain their supply from several regional source areas. Gas gatherers and processors are included here if their source and market characteristics are national in scope.
- 5.-pipelines are surveyed whenever possible for price data regarding purchases of spot gas for system supply or other sales exclusive of purchases by an affiliate gas marketing arm when such a distinction exists.
- 6.-pipeline marketing affiliates are surveyed whenever possible.
- 7.-gas distributors are surveyed for Table 1 information when the distributor is actually involved in transactions in which a price delivered to the receipt point of a transporting pipeline is established. GPI does not use an estimated delivered to pipeline price based on a delivered to utility price with a estimated transportation factor subtracted. Recently an increase in the number of gas distributors creating marketing affiliates has been seen. Such an affiliate is included as a regional or national marketer as its source and market characteristics so determine.
- 8.-electric utilities are surveyed in a like manner to gas distributors.
- 9.-industrial, non-utility electric generators, governmental, commercial, industrial and institutional end-users are surveyed when these sources are parties to transaction in which a delivered to pipeline receipt point price is actually established.

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The ideal market model incorporates representation of at least one constituent of the above 9 categories of market participants for each pipeline in each geographic region. Further, the ideal market model strikes an equal balance in data reported by sellers and resellers from that collected by ultimate buyers. Market model constituents are carefully selected to judge their appropriateness. The criteria used seeks to establish a market model that reflects the overall market behavior and patterns within the geographical factor. The market models strives to reflect a distribution of large and small market participants across the geographical area.

GPI has established a minimal reporting threshold for each delivered to pipeline market model of 12 independent price reports and, with few exceptions, generally exceeds that number easily, especially throughout the Gulf Coast producing regions when, during the latter part of the month while nominations for the next month delivery period are being negotiated, sources often contribute as many as 30 individual price reports in the most active market models.

For GPI Table 1 the prices reported by the individual sources for the particular pipeline market model are used to determine the range and then are averaged together to produce a simple arithmetic mean average of all reported prices for that individual pipeline.

The regions adopted for GPI Tables 1 and 2 were designed after consultation with actual gas buyers and sellers and research to determine factors such as natural gas production and its characteristics, access to gathering, processing and transportation services, local and regional supply and demand balance, and variation in price levels in order to create a geographically identifiable area that reflected general trading activity.

TABLE 2

GPI Table 2 data is an amalgamation of the individual pipeline prices reported in Table 1. The arithmetic mean average determined for the individual pipeline within a region is weighted by that pipeline's most recent quarterly reported interruptible transportation volumes filed with either the DOE or Securities and Exchange Commission and in turn averaged with all other pipelines within the region to determine the region's average.

The distinction between intra and interstate pipeline sales is made necessary as two very distinct markets exist between intra and interstate sales, exhibiting great difference in price levels, market behavior and supply and demand factors.

COMPOSITE NATIONAL AVERAGE

The GPI Composite National Weighted Spot Gas Average Price is determined by averaging each region's average price weighted by that region's portion of total gas production as determined by computations of Edwin Hardy, natural gas markets consultant in Fairfax, VA, formerly with Jensen Associates. Mr. Hardy's computations are based on natural gas production data obtained from Department of Energy figures.

TABLE 3

GPI Table 3 data is gathered from the gas and electric utilities themselves. Again, the broadest possible representation of large and small utilities in each region is sought. NGI has been achieving increasing cooperation from utilities on this information as long as strict confidentiality is maintained. In the case of a dual utility, the source is queried for separate information on gas for distribution and gas for electric generation.

The GPI Table 3 regions consolidate utilities by generally recognized market areas that exhibit uniform characteristics resulting from factors such as access to spot gas pipeline transportation and variations in demand and price levels. Regional averages are achieved by averaging the volume weighted cost of spot gas reported by the individual utilities.

The City-Gate/Delivered to Utility price is the price established for dry spot natural gas delivered to a utility's city-gate or receipt station exclusive of demand charges or taxes. The price includes the pipeline transportation charges.

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NATURAL GAS INTELLIGENCE WELLHEAD PRICES

The NGI wellhead price survey is the oldest continuously non-government published gas price survey of its kind. It should be noted, however, that while wellhead transactions were the primary point of sale for spot gas when the price table was first published in November 1983, the bulk of spot gas currently is sold downstream from the wellhead. However, because a sizable segment of market participants and analysts continue to require wellhead price information, particularly for calculation of royalty payments and for historical market tracking, NGI continues to report the NGI "Natural Gas Current Market Wellhead Prices," on a weekly basis.

The prices reported are separated in two categories: one for spot or short term transactions for up to one year in duration and another for long term sales representing terms exceeding one year. Both categories represent a range from the low to high of reported prices. The information is reported by geographical areas representing generally accepted regional distinctions. The NGI wellhead spot price reflects only gas flowing during the survey week.

Wellhead Price—For purposes of definition wellhead price is the Department of Energy's Energy Information Administration definition as used in Monthly Energy Review, "The [natural gas wellhead] price includes all costs prior to shipment from the lease including gathering and compression costs in addition to State production, severance, and similar charges." The price is further defined as a market price of an "arm's length transaction" and excludes special considerations such as distress sale or inter company/affiliate transactions.

The NGI wellhead price information is gathered from the full range of sources listed for GPI Table 1. In cases where the transaction is downstream from the wellhead, buyers and sellers are asked to net out transportation and processing costs. In addition, NGI has developed estimates of transportation, processing and gathering costs from the wellhead to mainline delivery. Using these estimates, inferred wellhead prices are determined from other gas price data as reported to the NGI Gas Price Index's survey for delivered to pipeline spot gas prices.

NGI does not create an average price for each region, but simply a single arithmetic mean of the high and low spot prices in the main Southwest producing regions. The formula was suggested as being the most representative of the actual spot wellhead cost of gas a number of years ago by staff in the Federal Energy Regulatory Commission's Office of Regulatory Analysis, which uses that average as a market indicator.

In the area of long term contracts, both the length and frequency of new contracts has changed since the table was first published. In keeping with the market, NGI has changed its definition of long term from anything over two years, to anything over one year. And, because of the small number of new long term contracts, NGI has relied heavily on renegotiations and market outs under existing long term contracts for price quotes. This area, however, is beginning to see more action, a trend we expect to see continue, and the quotes will reflect that. As the new long term market develops and becomes established, NGI/GPI could add additional tables, with more detail if it appears necessary to adequately track the market.

PIPELINE COMMODITY PRICES

NGI also publishes a monthly compilation of commodity rates charged by pipelines for delivered system supply natural gas, exclusive of demand charges, for 27 major interstate pipelines. The information presented is reported to NGI by the individual pipelines. The prices shown are for the month indicated in the table and are expressed in MMBtus, except where noted, and include GRI and ACA surcharges and fuel adjustments when reported.

PIPELINE MARKET OUT PRICES

A monthly table is also published showing the market out prices pipelines are quoting for their long term contracts for system supply. Only those pipelines which quote a uniform price are included. The information is obtained from the pipelines. This table also includes the average prices for spot gas paid by leading utilities. The information is obtained from the utilities and includes only those which allow the information to be made public.

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APPENDIX

Regional Components of GPI Tables

TABLE 1&2 REGIONS—Eastern Texas: Texas Railroad Commission Districts 3, 5 & 6. Southern Texas: TRC Dist. 1, 2 & 4. West Texas/Permian Basin: TRC Dist. 7C, 8 & 8A, SE New Mexico. Texas Panhandle/Anadarko Basin/Oklahoma: TRC Dist. 10 and all Oklahoma. North/South Louisiana: All of state, either north or south of Alexandria. Alabama/Mississippi: all, each state. Rocky Mountains: WY, CO, UT and San Juan basin of New Mexico. Appalachia: NY, PA, OH, WV & KY.

CITY GATE REGIONS—New England: ME, NH, VT, MA, RI & CT. New York City, Long Island & New Jersey: All of metropolitan area and all New Jersey. Middle Atlantic: DC, VA, DE & MD. South Atlantic: NC, SC, GA & FL. Appalachia: NY (less NYC), PA, OH, WV & KY. Upper Midwest: MI & WI. Lower Midwest: IL & IN. Upper Plains: ND, SD & MN. Central Plains: NB, IA, KS, AK & MO. South Central: TN, AL & MS. Oklahoma: all. Louisiana: all. West Texas: westernmost part bounded on North by Midland, on the East by San Angelo, South to Mexican border. Central Texas: central portion of state bounded by Wichita Falls, Dallas-Ft. Worth and Austin. East Texas: portion East of Dallas and Austin, and bounded on South by Houston. South Texas: Del Rio to San Antonio to Victoria. Southwest: AZ, NM & NV. Northwest: WA, OR & ID. Rocky Mountains: CO, MT, WY, & UT. California: all.

The Composite National Weighted Spot Gas Average Prices are derived by averaging the interstate and intrastate price of each region of Table 2 weighted by that region's portion of total U.S. natural gas production as follows: Eastern Texas=13%, Southern Texas=16%, West Texas/Permian Basin=9%, Texas Panhandle/Anadarko Basin/Oklahoma=15%, No. Louisiana=2%, So. Louisiana=28%, Alabama/Mississippi=4%, Rocky Mountains=7%, Appalachia=3%, California (intrastate only)=3%.

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Inside F.E.R.C.'s **GAS MARKET REPORT**

PRICES REPORTED

Delivered-to-pipeline. Biweekly reports of 40 price ranges by pipeline and geographic region, with 21 pipelines covered. Also reported for each location is an index price, which represents the most frequently reported price within the range. Pipelines and/or regions are added to the report as the need is identified and when a satisfactory number of price sources is established.

City-gate. Monthly reports of pipeline commodity sales rates and spot prices for delivery to the city-gate in 11 major markets.

Wellhead. Monthly reports of price ranges in nine geographic regions.

Burner-tip. Monthly reports of price ranges in Texas and Louisiana industrial markets. Index prices, representing the most frequently reported price, were added to the coverage in November 1988.

Trends. Simple arithmetic averages of previously reported prices at the wellhead (six points), delivered to pipeline (four points), city-gate (five points) and burner-tip (seven points). Figures are provided for prior three months plus previous periods to show historical trends.

Louisiana electric utilities. Monthly comparison of prices paid during three recent months by four power companies with plants in Louisiana. Information is collected from the Louisiana Public Service Commission and reported several weeks before it is available from FERC.

DETAILS ON DELIVERED-TO-PIPELINE PRICES

Prices are obtained firsthand in confidential surveys of actual buyers and sellers conducted by the staff of *Inside F.E.R.C.'s Gas Market Report*. Price assessments are based only on our original reporting and do not incorporate publicly available price surveys. Strong emphasis is placed on accuracy and consistency.

The current reporting format has been in place since March 1986. The survey sample comprises more than 150 sources. The sample is composed almost entirely of large and small gas producers, pipeline-affiliated and non-affiliated marketers, distributors and end-users. Almost all of the sources provide multiple price reports.

Prices are collected from participants only for transactions with which they are directly familiar. Prices reported are for actual spot sales agreements, not for offers or bids. Spot transactions are generally defined as deals with 30-day terms or longer terms that provide for frequent price adjustment.

Neither price ranges nor index prices are volume-weighted. Prices are reported on a dry basis. In compiling ranges, if a reported price deviates significantly from others reported for that location, it is not included in the range unless we can be assured that it is for a deal

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comparable to the others being reported. The number of reports per pipeline/geographic region varies by pipeline and by season, but every effort is made to compile a representative range. A price index is not reported if we cannot obtain a satisfactory number of matching individual prices for a particular location.

Delivered-to-pipeline prices include any charges for processing, gathering and transportation that are incurred in moving the gas from the wellhead to the pipeline system. For offshore points, the prices do not include transportation charges incurred to deliver the gas to onshore points. The prices collected from marketers and other respondents that purchase and resell spot gas are their purchase, rather than sales, prices.

Prices reported in the first issue of the month are for gas flowing on the first of the month. Prices in the second issue are for gas flowing on the 15th of the month. Surveying is done within three business days of the reporting date.

PUBLICATION AND REPORTING STANDARDS

Inside F.E.R.C.'s Gas Market Report was established in January 1985 as a sister publication of *Inside F.E.R.C.*, which has reported on natural gas since January 1979. Both newsletters, along with such standard-setters in other industries as *Platt's OILGRAM Price Report* and *Metals Week*, are published by McGraw-Hill Inc., a publishing and information-services company whose stock is traded on the New York Stock Exchange.

Supervising *Inside F.E.R.C.'s Gas Market Report* since its inception have been Chief Editor Larry Foster, with *Inside F.E.R.C.* since 1980, and Managing Editor Stephen Munro, with McGraw-Hill's energy newsletters since 1981. Pipeline price surveying is regularly conducted by four staff members, and staff turnover has been minimal. Supervising editors assure that surveying and reporting criteria are met at all times.

McGraw-Hill written policy prohibits editorial personnel and their spouses from trading in commodities or stocks, bonds or options of companies in the industry covered by their publication. Editorial employees also are required to maintain confidentiality of information to be reported until the publication date of the issue.

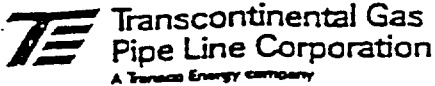
For more information, contact Stephen Munro at (202) 463-1664 or Larry Foster at (202) 463-1656.

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ATTACHMENT C-1



2800 Post Oak Boulevard
P. O. Box 1396
Houston, Texas 77251
713-439-2369

Thomas E. Skains
Vice President
Marketing and Transportation

July 20, 1989

Transcontinental Gas Pipe Line Corporation's
Customers, Shippers and Potential Shippers

Gentlemen:

Effective immediately, Transcontinental Gas Pipe Line Corporation (Transco) will discount its transportation rates under Part 284 of the Federal Energy Regulatory Commission's (Commission) Regulations for interruptible transportation pursuant to the following general guidelines. This letter supersedes Transco's March 21, 1989 transportation discount advisory and will continue until further notice.

Pursuant to these guidelines, discounted transportation service will be provided for all IT shippers scheduling and delivering quantities to Transco's market area delivery points with firm sales customers within each customer's daily CD, G and OG contract demand levels. Attachment "A" hereto reflects (1) the maximum Part 284 rates for such interruptible transportation service and (2) the discounted Part 284 rates for such service under these guidelines. These rates do not reflect any applicable GRI, ACA, PSP, PSP-II and LPSP surcharges as set forth in Sections 24, 27, 29, 32 and 33 of the General Terms and Conditions of Transco's FERC Gas Tariff.

For all other service arrangements under Transco's IT Rate Schedule, Transco will discount the production area component of its transportation rate as set forth on Attachment "B". Attachment "B" reflects (1) the maximum Part 284 rates for such interruptible transportation service and (2) the discounted Part 284 rates for such service under these guidelines. These rates do not reflect any applicable PSP, ACA and GRI surcharges as set forth in Sections 24, 27 and 29 of the General Terms and Conditions of Transco's FERC Gas Tariff.

Transco's willingness to provide this discounted Part 284 transportation is subject to the condition that in the event Transco's maximum rates for Part 284 interruptible transportation are subsequently reduced by Commission action and the Commission requires Transco to refund any amounts to its transportation customers, such refunds will be provided only where the maximum rate approved by the Commission is less than the rate actually charged the shipper and such refunds will be limited to the difference, if any, between the rate(s) actually charged the shippers and the maximum rate(s) approved by the Commission.

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Transcontinental Gas Pipe Line Corporation's
Customers, Shippers and Potential Shippers
July 20, 1989
Page Two

While the foregoing represents Transco's general guidelines for discounting, Transco reserves the right to discontinue, or to change its general guidelines, or to provide differing levels of discounts on a selective basis. Specifically, Transco will entertain discount rate negotiations on a selective basis for incremental transportation service in Transco's production area and market areas. You are invited to contact Michael Yount at (713) 439-3364 (Northern Market Area), Buck Helburg at (713) 439-2452 (Southern Market Area) or Rick Santerre at (713) 439-4134 (Production Area) with respect to these arrangements.

Very truly yours, . . .

Thomas E. Skains (initials)

Thomas E. Skains
Vice President
Marketing & Transportation

Attach.

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July 20, 1989

ATTACHMENT "A"Part 284 Interruptible Transportation Rates

<u>Downstream Delivery</u>	<u>Maximum Rate ^{1/}</u>	<u>Discounted Rate ^{1/}</u>
Production Area to Market Area		
Production Area Component	2.2¢ ^{2/}	1.34¢ ^{2/}
Market Area Component to Zone 1	12.9¢	2.3¢
Market Area Component to Zone 2	15.7¢	3.2¢
Market Area Component to Zone 3	19.3¢	4.8¢
Within the Market Area		
Within a Zone	12.9¢	2.3¢
Across one Zone	15.7¢	3.2¢
Across two Zones	19.3¢	4.8¢

^{1/} Pursuant to Sections 24, 27, 29, 32 and 33 of the General Terms and Conditions, the above charges per dt may be increased, if applicable, to include the GRI, ACA, PSP, PSP-II, and LPSP surcharges.

^{2/} Production Area rate per each 25 mile increment of haul with a minimum charge based on 50 miles.

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under CD limit; not
for customers
→ 10¢ per customer

July 20, 1989

ATTACHMENT "B"Part 284. Interruptible Transportation Rates

<u>Downstream Delivery</u>	<u>Maximum Rate ^{1/}</u>	<u>Discounted Rate ^{1/}</u>
Production Area to Market Area		
Production Area Component	2.2¢ ^{2/}	2.0¢ ^{2/}
Market Area Component to Zone 1	12.9¢	12.9¢
Market Area Component to Zone 2	15.7¢	15.7¢
Market Area Component to Zone 3	19.3¢	19.3¢
Within the Market Area		
Within a Zone	12.9¢	12.9¢
Across one Zone	15.7¢	15.7¢
Across two Zones	19.3¢	19.3¢
Within the Production Area	2.2¢ ^{2/}	2.0¢ ^{2/}

^{1/} Pursuant to Sections 24, 27, 29, 32 and 33 of the General Terms and Conditions, the above charges per dt may be increased, if applicable, to include the GRI, ACA, PSP, PSP-II, and LPSP surcharges.

^{2/} Production Area rate per each 25 mile increment of haul with a minimum charge based on 50 miles.

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ATTACHMENT C-2
TRANSCO TRANSPORT RATE CALCULATIONS FOR
THE PERIOD JULY-DECEMBER, 1989
 (Per 25 Mile Unit Basis)

I.	Source Fields	Historical Volumes-MM/d	
		Onsystem	Offshore
	<u>Brazos A-19/20, 23</u>		
	Jan '89	60	37
	Feb '89	82	13
	Mar '89	80	12
	Apr '89	67	24
	May '89	83	--
	Jun '89	61	20
		433 80.3%	106 19.7%

Per Unit Rate on a historical volume weighted basis
 $= (\$0.02 * 0.803) + (\$0.027 * 0.197) = \$0.021$

II.	North Padre Island 969	Historical Volumes-MM/d	
		Onsystem	Offshore
	Jan '89	--	43
	Feb '89	--	43.5
	Mar '89	--	43.5
	Apr '89	28	15
	May '89	28	15
	Jun '89	36	10
		92 35.1%	170 64.9%

Per Unit Rate on a historical volume weighted basis
 $= (\$0.02 * 0.351) + (\$0.27 * 0.649) = \$0.025$

III.	All Other Fields **	Historical Volumes-MM/d	
		Onsystem	Offshore
	Jan '89	238	19
	Feb '89	235	--
	Mar '89	237	--
	Apr '89	233	--
	May '89	240	--
	Jun '89	242	--
		1,425 98.7%	19 1.3%

Per Unit Rate on a historical volume weighted basis
 $= (\$0.02 * 0.987) + (\$0.027 * 0.013) = \$0.02$

** Refers to all fields that flow to onshore Louisiana. Most of these fields were previously dedicated under a traditional contract to Transco, but have been released under a PRODUCER-PIPELINE settlement. Basically, this rate will apply to 50% of the HI 179 volumes which were not formerly dedicated to Transco.

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FIGURES

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S000416
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HISTORICAL PLOT OF GAS MARKET REGULATORY ENVIRONMENT AND MARKET DYNAMICS

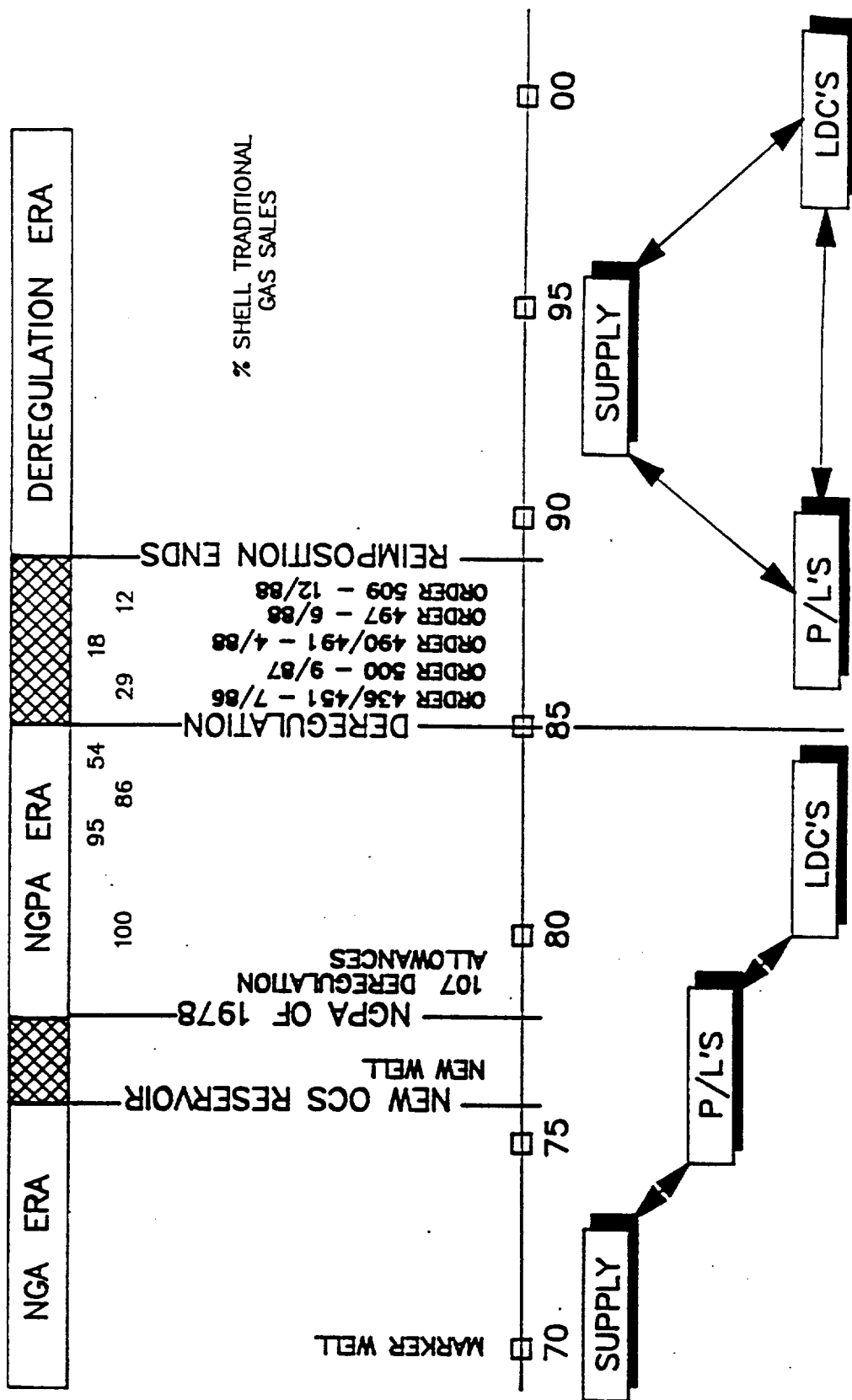


FIGURE 1

S000417
127

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FACTORS INFLUENCING THE GAS MARKET

MARKET PSYCHOLOGY - PERFORMANCE

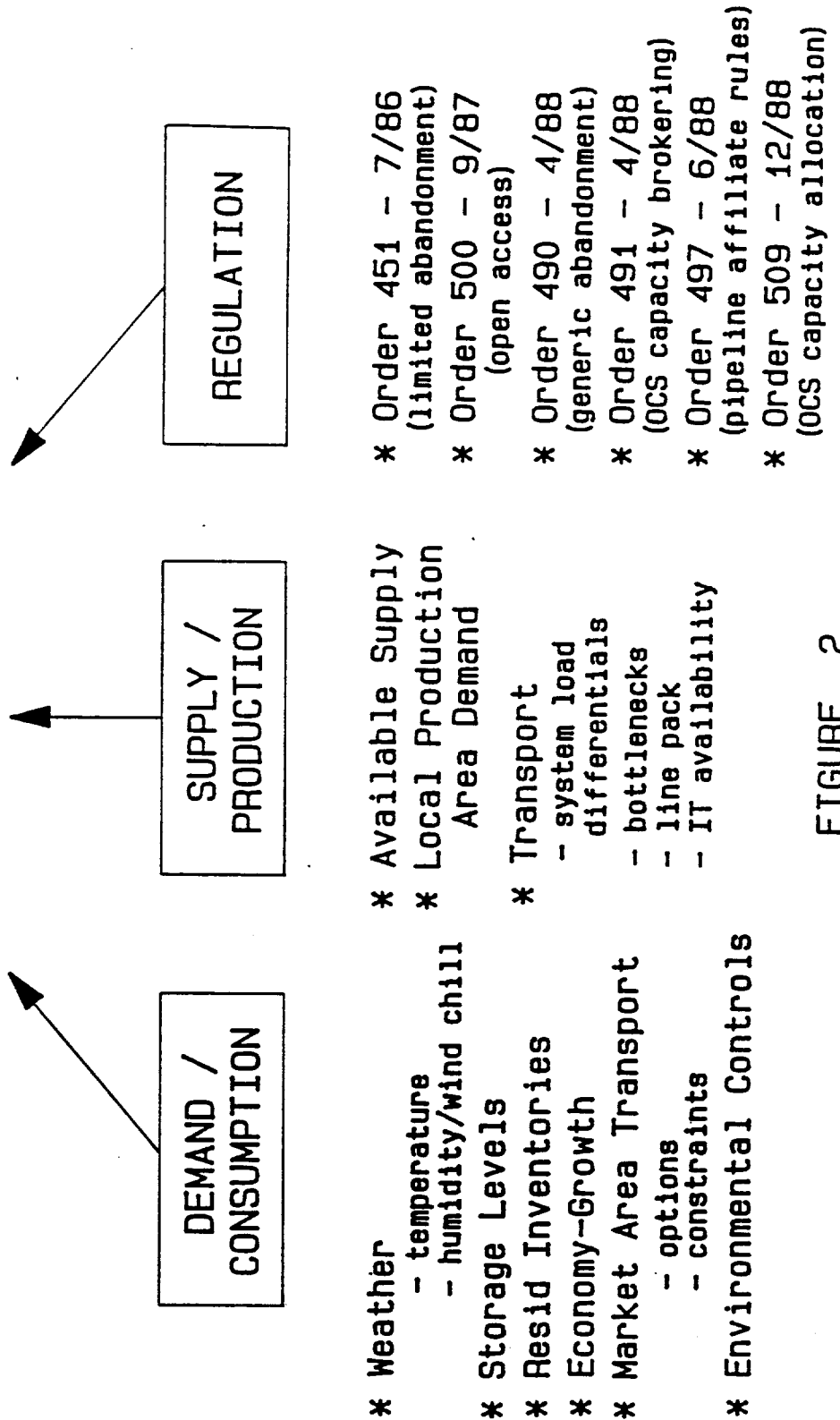


FIGURE 2

S000418

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TIMING OF SPOT BUY/SELL PROCESS

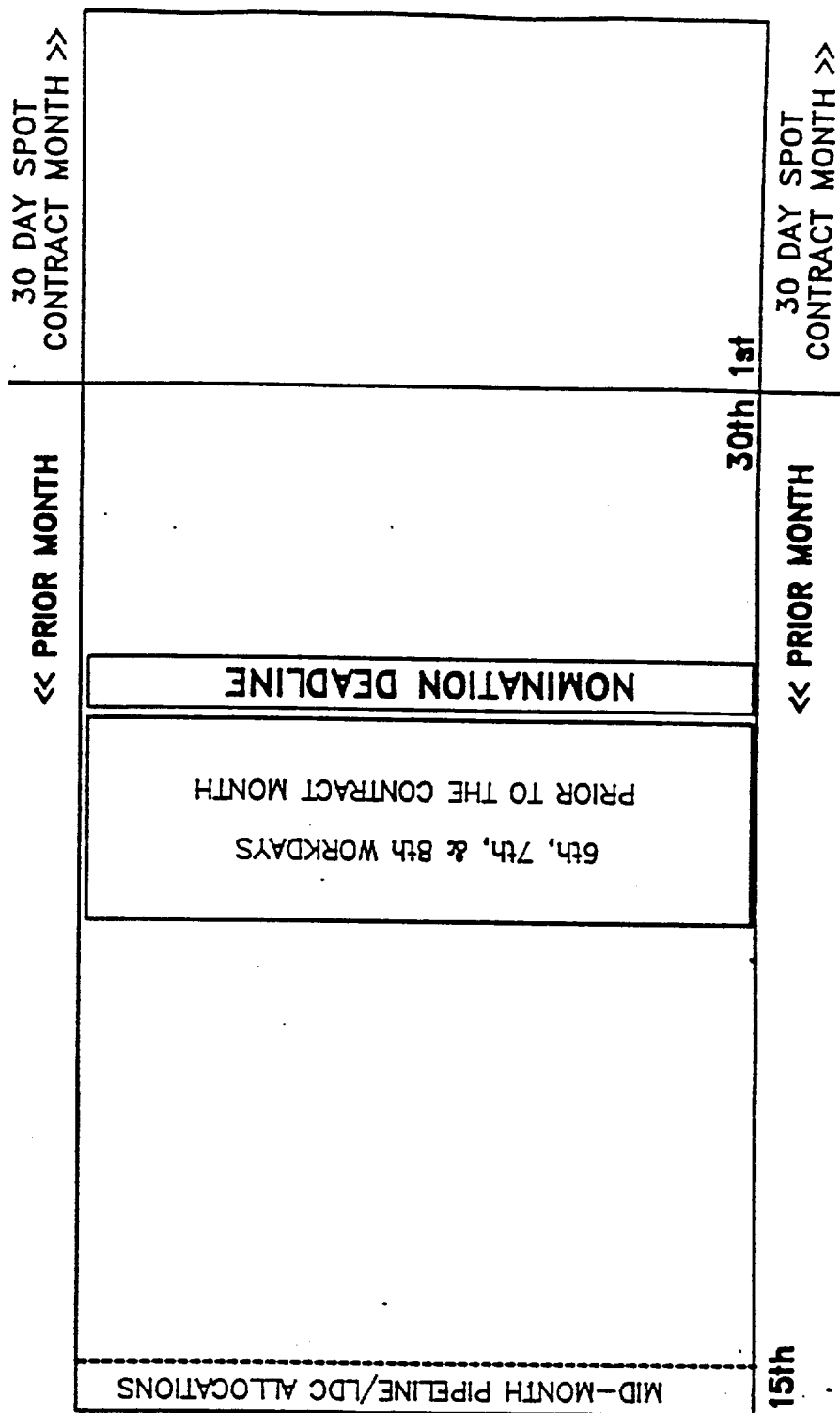


FIGURE 3

S000419

120

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EL PASO TRACKER REVIEW

TIMING OF SPOT BUY/SELL PROCESS

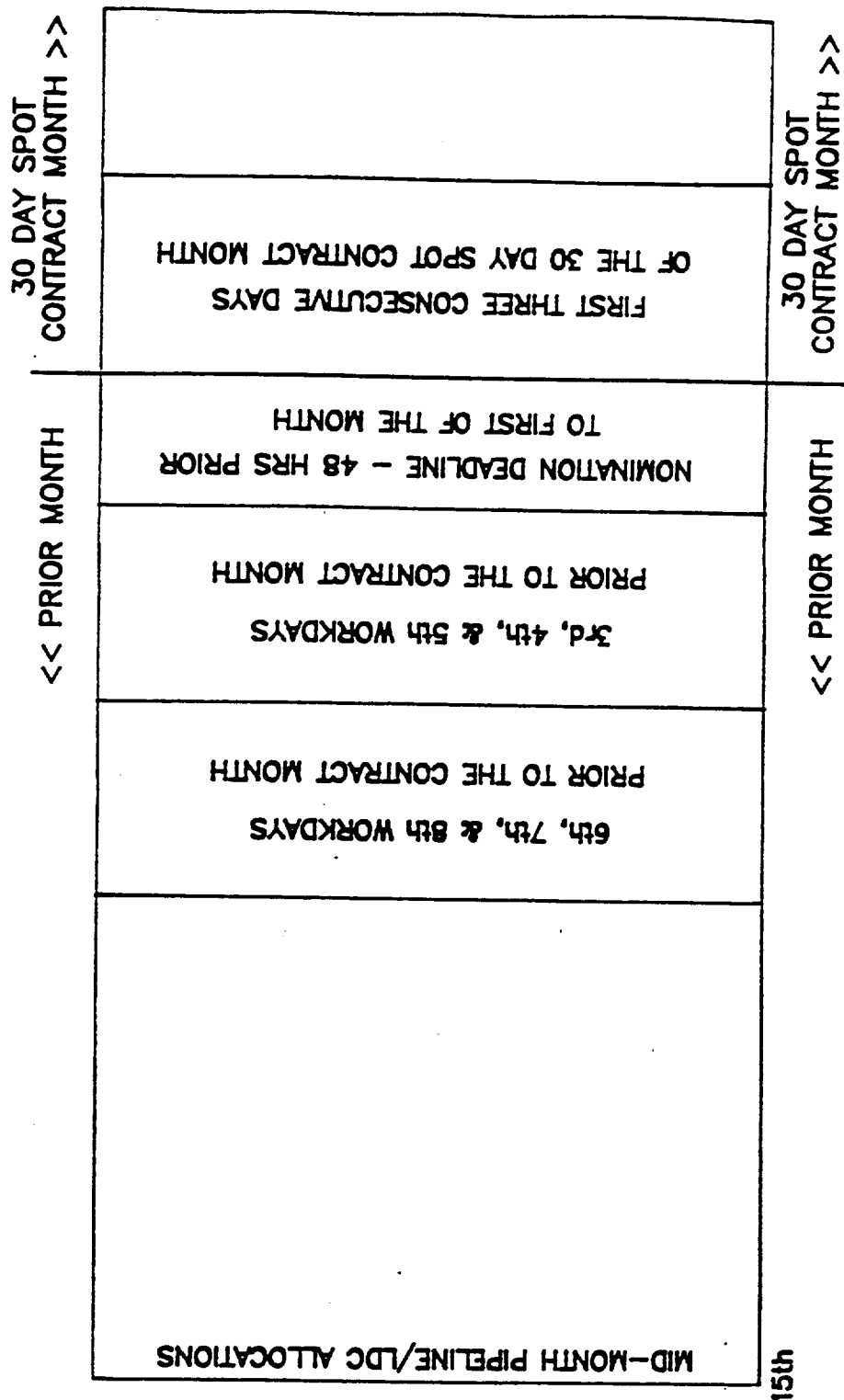


FIGURE 4

S000420
130

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SGTC - SOL/SWEPI PRICING METHODOLOGY

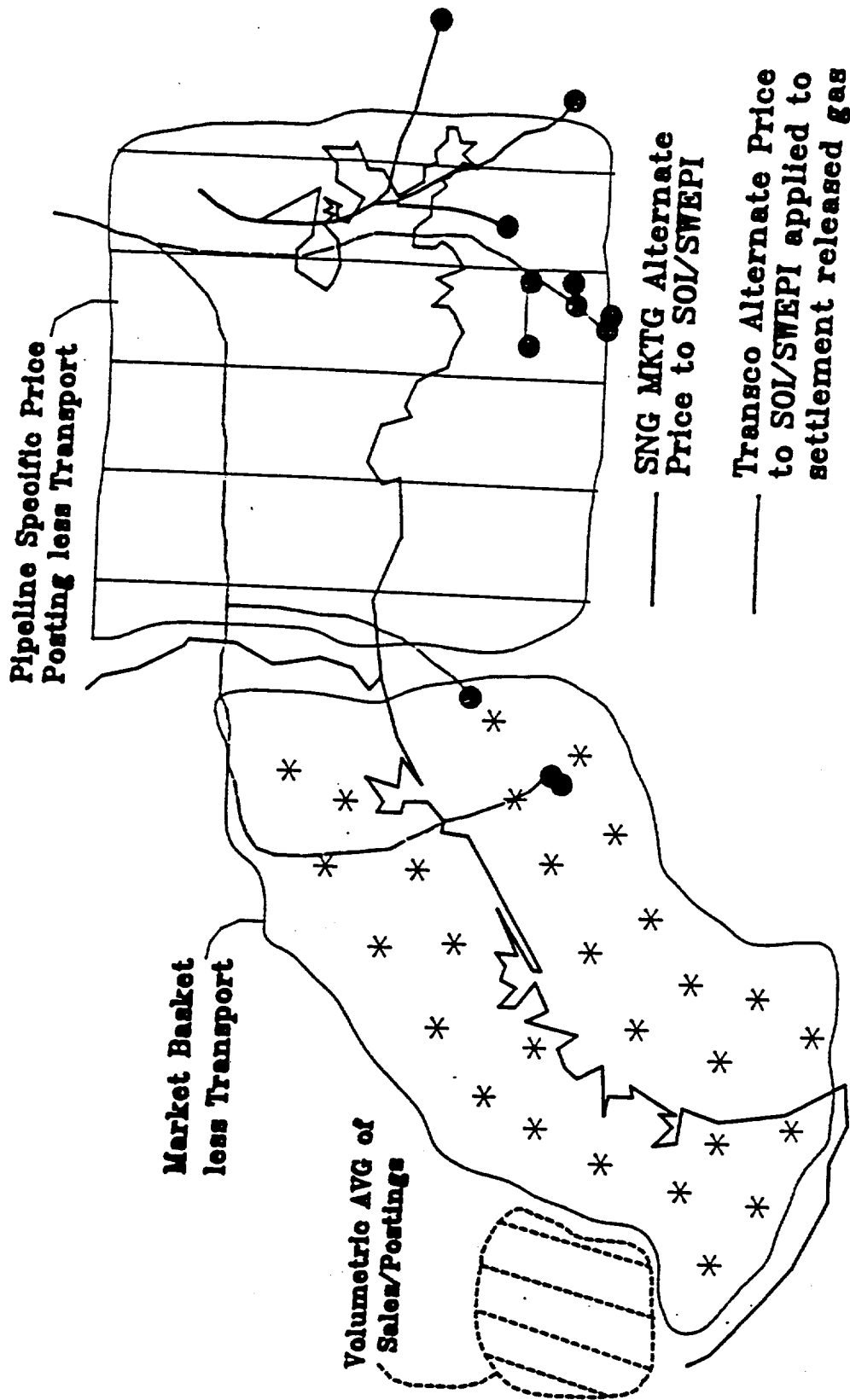


FIGURE 5

S000421
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SWEPI PRICING DETERMINATION METHODOLOGY

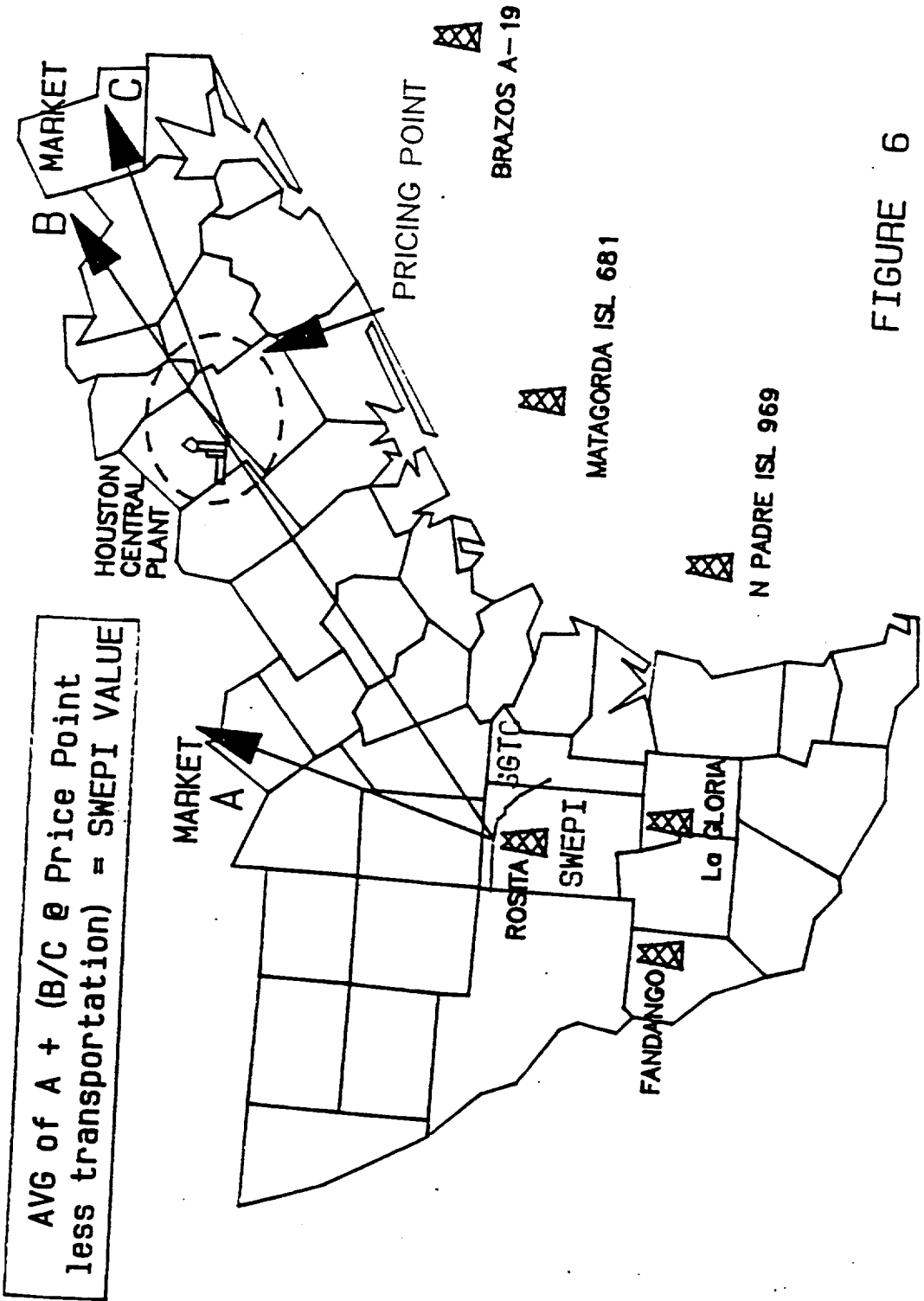
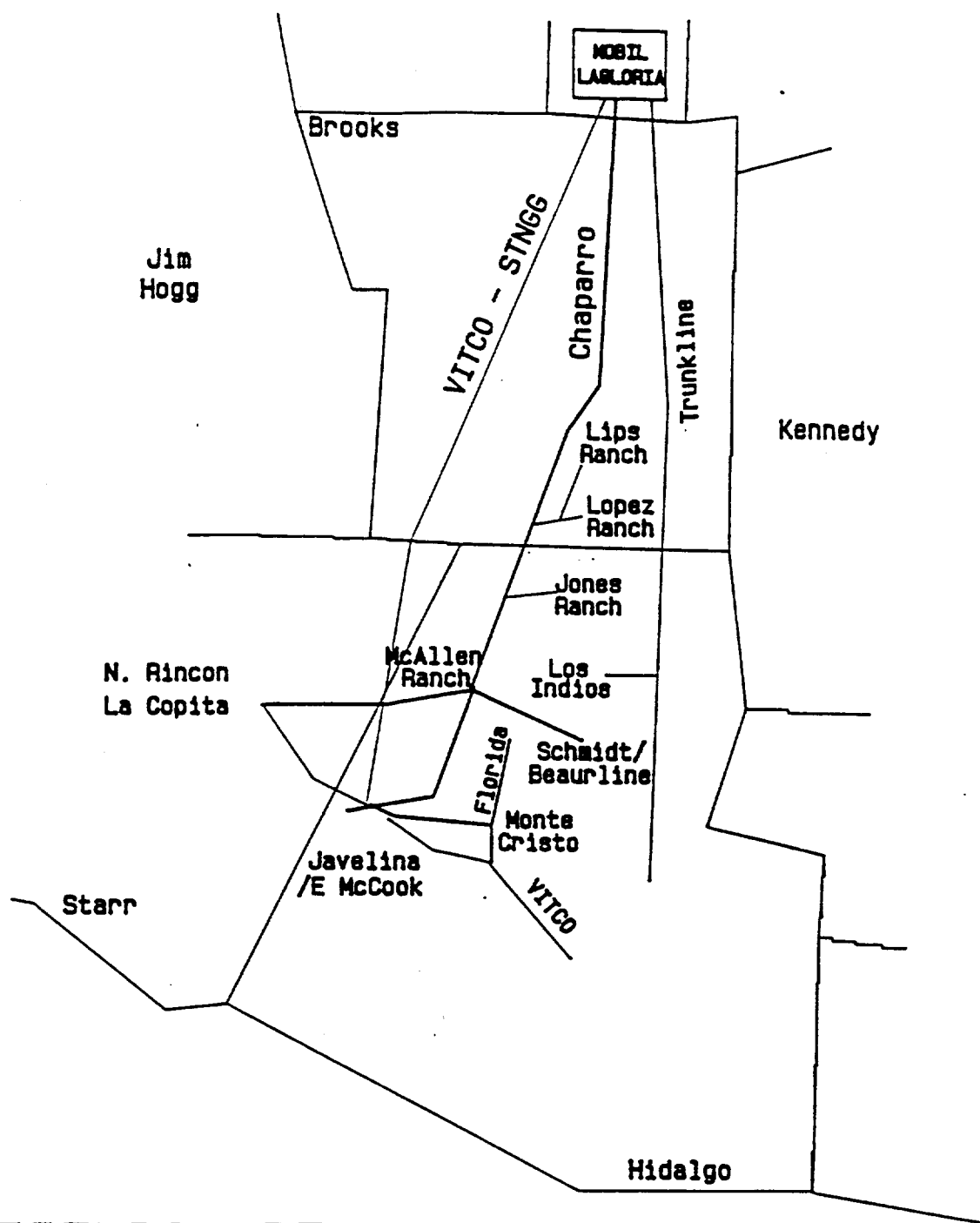


FIGURE 6

S000422

130

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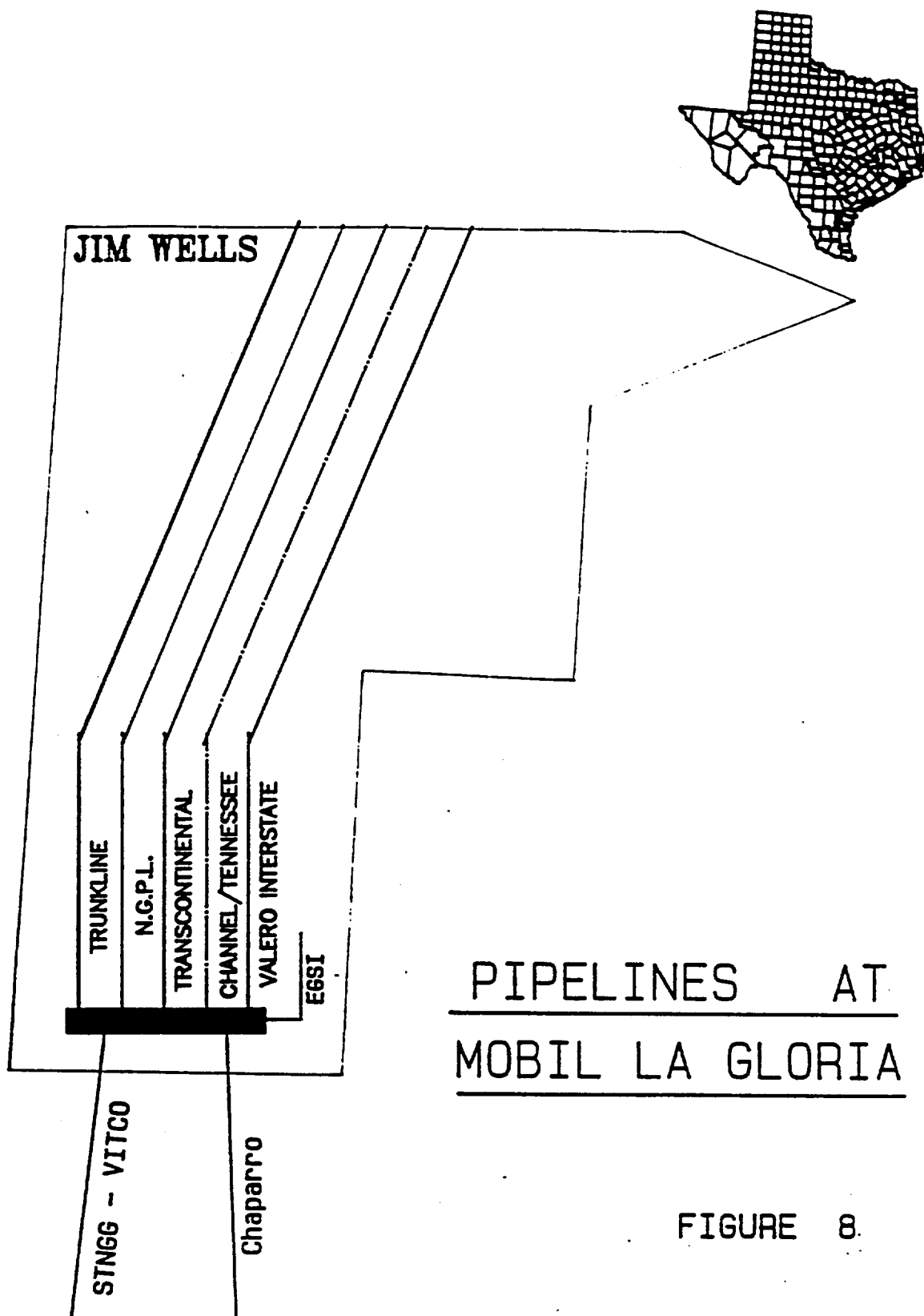
FIELDS BEHIND
MOBIL LA GLORIA

FIGURE 7

S000423

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PIPELINES AT
MOBIL LA GLORIA

FIGURE 8

S000424

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WEST TEXAS - PERMIAN BASIN

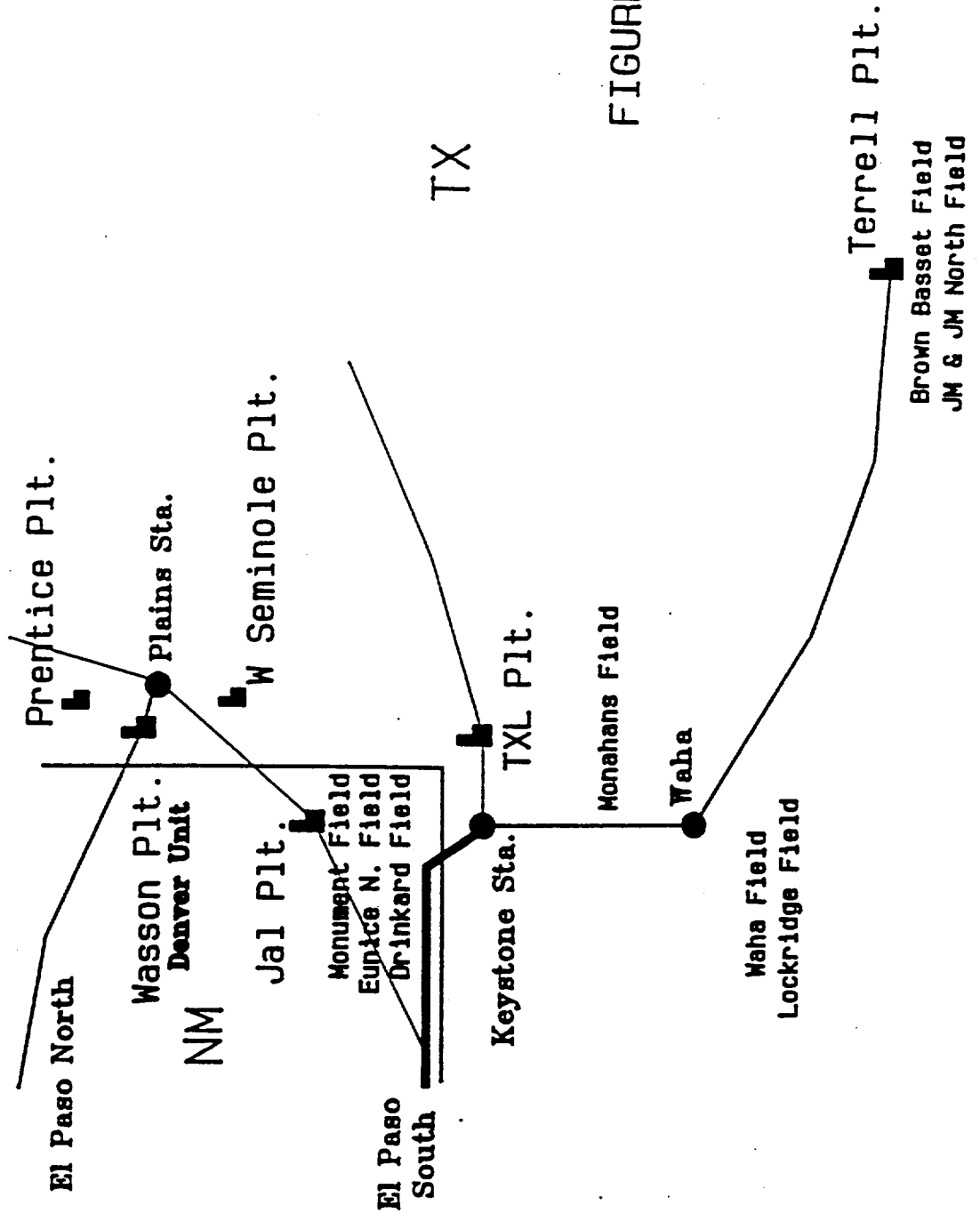


FIGURE 9

S000425 135

P 02444

SOI PRICING DETERMINATION METHODOLOGY

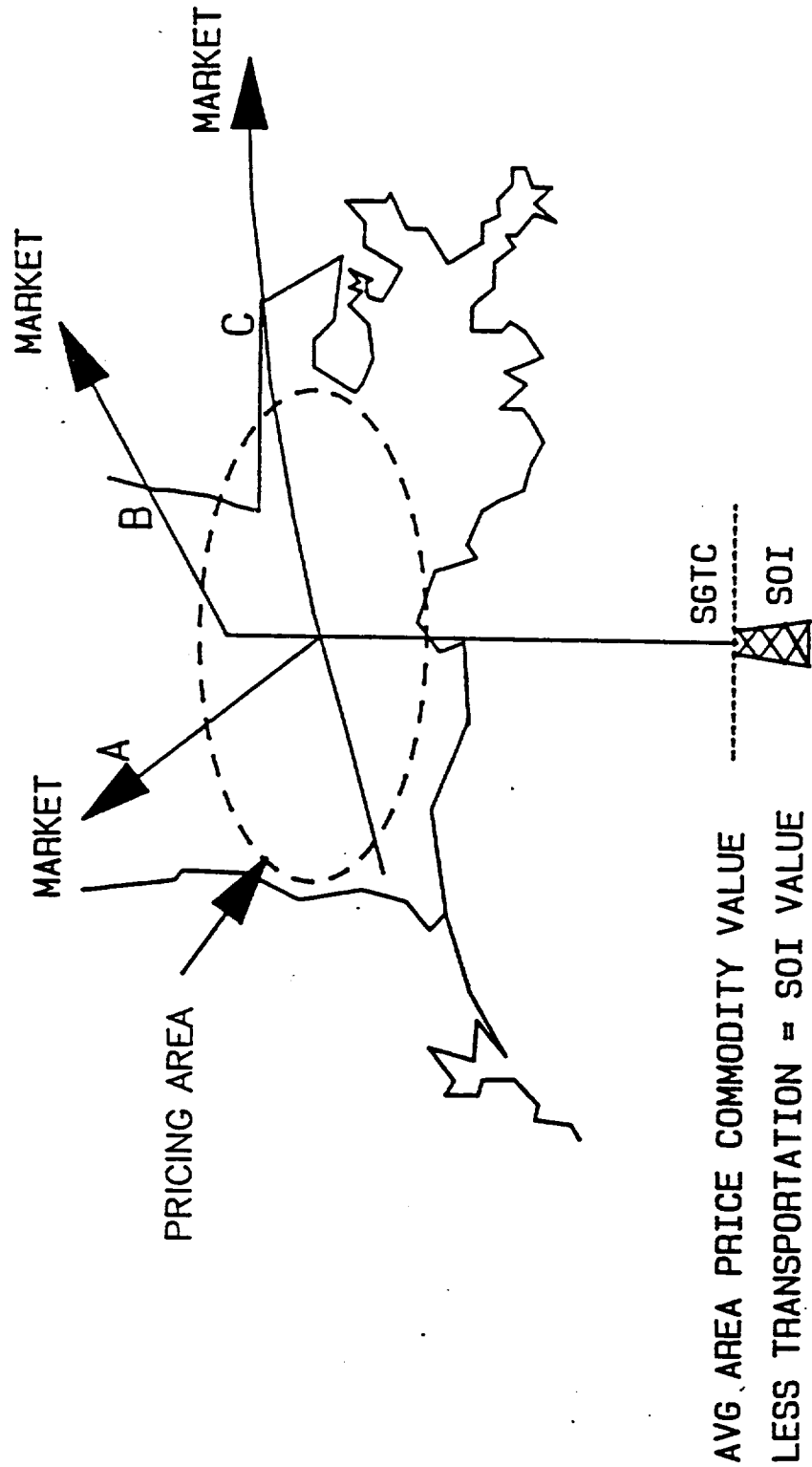


FIGURE 10

S000426

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GAS PURCHASE AND SALE AGREEMENT

BETWEEN

SHELL WESTERN E&P INC.

AND

SHELL GAS TRADING COMPANY

JULY 1, 1988

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NATURAL GAS PURCHASE AND SALE AGREEMENT

(SHELL GAS TRADING COMPANY/SHELL WESTERN E&P INC.)

This is an AGREEMENT, dated July 1, 1988, between SHELL WESTERN E&P INC., with offices at Woodcreek, 200 North Dairy-Ashford, Houston, Texas 77079 ("SWEPI") and SHELL GAS TRADING COMPANY, with offices at One Shell Plaza, P.O. Box 2463, Houston, Texas 77252-2463 ("SGTC"), whereby SWEPI agrees to sell and SGTC agrees to purchase natural gas, including casinghead gas remaining for SWEPI's account at the tailgate of a plant (collectively referred to as "Production"), but excluding all oil, condensate and plant products (collectively, "liquid hydrocarbons"), under the terms and conditions set forth herein and in Attachment "A" entitled "General Provisions," which is incorporated as though set out herein verbatim.

1. Term: This agreement shall be effective as of 7:00 a.m. CST, April 28, 1986, for a primary period ending at 7:00 a.m. CST January 1, 1990, and shall be automatically extended for additional one year periods on each anniversary thereof; provided, however, that effective on or after 7:00 a.m. CST January 1, 1990, this agreement may be terminated at any time by either party giving the other party written notice at least six months prior to the effective date of termination.

2. Sources of Gas: Except as provided in Paragraph 4, this agreement covers all marketable quantities of Production (including royalty volumes) produced, purchased or controlled by SWEPI during the term hereof, that (a) SWEPI is not committed contractually to sell to other buyers, or (b) that has been released by other buyers for sale by SWEPI. Such Production available for sale by SWEPI to SGTC is set out and described on Exhibit A attached hereto and

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made a part hereof, which exhibit shall be updated periodically to reflect current Production available but no less than annually. Volumes of Production may be added to or excluded from this Agreement at any time and from time to time by mutual agreement of SGTC and SWEPI at least thirty days prior to such addition or exclusion; provided, however, that, this provision shall not apply to the exclusion of all Production from this Agreement.

3. Quantity: SGTC shall on or before the 10th calendar day of the month of production nominate to SWEPI volumes proposed to be purchased during that month from each SWEPI location. On or before the sixth working day of the month following the month of production, SGTC will provide its final volume nomination for the prior month.

4. Reservations: This contract does not apply to and SWEPI expressly excludes from this contract and reserves unto itself, its successors and assigns, the following rights and a quantity of gas sufficient to satisfy such rights:

(i) To operate SWEPI's leaseholds, lands and/or interest therein, free from any control by SGTC, in such manner as SWEPI deems advisable, including the right (but never the obligation) to drill new wells, repair and rework old wells, to renew and extend (in whole or in part) any lease, to abandon any well, surrender any lease (in whole or in part) for any reason, and to abandon, modify, extend or dispose of any facilities owned or installed (in whole or in part) by SWEPI;

(ii) To use gas for the development and operation of the leases in which SWEPI has an interest subject hereto, including (but not limited to) the use of gas for fuel, drilling (including gas

drilling), deepening, reworking, compressing, gas lifting, processing, treating, cycling, repressuring or other supplemental recovery operations;

(iii) To process gas after its delivery for the extraction of any components contained therein other than methane, except for such methane reasonably removed in such processing;

(iv) To use gas in certain facilities for oil recovery projects; and

(v) To use at any time and from time to time, by prior written notice to SGTC, produced quantities of gas in SWEPI's facilities in which SWEPI or any of its affiliated or subsidiary corporations owns an interest and which are used in whole or in part in connection with the recovery of crude oil.

5. Delivery: All deliveries shall be made by SWEPI at field or plant tailgate delivery points as applicable and into the pipelines designated by SGTC subject to SWEPI's prior contractual commitments. Measurement shall be through mutually acceptable meters provided by SWEPI or the transporting pipeline company. Volume and heating value of the Production shall be determined in accordance with the General Tariff established from time to time by the transporting pipeline. Without regard to the place of measurement, title to and risk of loss of the Production shall pass from SWEPI to SGTC as the Production enters the first flange owned by the pipeline designated by SGTC to receive delivery at the field or plant tailgate delivery point.

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6. Price:

(a) The price to be paid by SGTC to SWEPI for all Production purchased hereunder shall be the commodity value of the Production at the applicable field or plant tailgate delivery points as reasonably determined by SGTC. SGTC shall determine the commodity value by consideration of reliable public sources of price and market information, prices established at major interconnect points of those pipelines servicing the production area generally identified on Exhibit B attached hereto and incorporated herein by reference, posted prices for comparable gas, and prices paid by SGTC and other purchasers in comparable arms'-length sales of like-quality gas in the same field or plant tailgate or, if necessary to obtain a pricing sample, in the same area. In determining both comparability and commodity value SGTC will make appropriate adjustments for the location of the gas, time of execution, term, duration, market(s) served, quality, volume, and other such factors as may be appropriate to reflect the value of the gas. The determination of, and subsequent revisions to, commodity values at the field or plant tailgate delivery point shall all be determined from time to time by SGTC, which shall act reasonably, in good faith, and in accordance with good industry practice. SGTC shall notify SWEPI in writing of all determinations and revisions on or before the fifth working day of the month following the month of production. SWEPI shall be deemed to have accepted such determinations and revisions unless it takes exception thereto by giving written notice to SGTC on or before the last day of the second calendar month following the month of production. Should SWEPI take exception to any determination or revision, it shall then be

negotiated to the mutual satisfaction of both parties. In the event that a mutually satisfactory price cannot be agreed upon, SGTC and SWEPI agree to release such Production from this Agreement for sale by SWEPI to other parties and without further obligation to purchase by SGTC. In no event shall the price paid by SGTC hereunder exceed the applicable maximum lawful price, if any, established pursuant to the Natural Gas Policy Act, plus any reimbursements for production related services allowed by Section 110 of such Act.

(b) SGTC shall reimburse SWEPI for 100% of production, severance or similar taxes imposed on the extraction of natural gas from the ground. The price paid to SWEPI under subsection (a) shall include reimbursement of such taxes. SGTC is liable for all tax reimbursement under this Agreement.

(c) Information supporting SGTC's determinations and revisions of commodity values of Production purchased hereunder shall be maintained by SGTC for a period of two years from the month of production unless a longer period is requested by SWEPI as a result of an audit. SWEPI shall have the right to inspect and audit such information during business hours upon reasonable notice to SGTC.

7. Transportation: SWEPI hereby assigns to SGTC any transportation discounts received by SWEPI from certain pipeline purchasers for use by SGTC in its transportation arrangements. The value of such discounts shall be reflected in the price SWEPI receives from SGTC at the point of transfer.

8. Quality: The quality and standards of pressure of the Production delivered by SWEPI hereunder shall at all times meet the standards established by the applicable transporting pipeline(s) in effect at the applicable delivery point at the time of the delivery. any costs incurred to bring the Production up to such standards shall be borne by SWEPI.

9. Royalty: SWEPI shall be responsible for payment of all royalties.

10. Amendment: Amendments to this Agreement shall require the mutual written consent of both parties.

11. Entirety, Successors: This Agreement constitutes the entire agreement by and between SWEPI and SGTC concerning the provisions hereof. This Agreement shall bind and inure to the benefit of any successors or assigns of either party.

AGREED AND ACCEPTED AS OF THE 28th DAY OF FEBRUARY, 1989.

SHELL WESTERN E&P INC.

By: [Signature]
President

SHELL GAS TRADING COMPANY

By: [Signature]
President

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ATTACHMENT A
TO
SWEPI/SGTC PURCHASE/SALE AGREEMENT
GENERAL PROVISIONS

- A. INSPECTION, MANAGEMENT, AND TESTS. The volume and heating value of Production delivered shall be measured according to the current General Tariff of the applicable transporting pipeline at the time of delivery. If required by mutual agreement, the measurements and tests required to determine the volume of receipts or shipments shall be made by an independent natural gas inspector. The inspector shall be appointed jointly and the cost of his services shall be shared equally by the parties. When an independent inspector is used, his determinations of quantity and heating value shall be conclusive and binding on both parties. Notwithstanding the foregoing provisions, if no independent inspector is appointed by mutual agreement, then either party shall have the right to appoint its own inspector at its sole expense. In that event, any differences between the results obtained by the inspector and the measurements otherwise obtained will be settled by mutual agreement resulting from negotiations between the parties, without prejudice to any other legal remedies of either party.
- B. WARRANTY. SWEPI warrants good title, free and clear of all taxes, liens, and encumbrances, to the Production sold and delivered hereunder and warrants that all Production shall be produced and transported to delivery

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point hereunder in accordance with all valid and applicable federal, state, and local laws, rules, and regulations.

- C. Mcf. The term "Mcf" as used herein shall mean 1,000 cubic feet of gas, one cubic foot being the amount of gas necessary to fill a cubic foot of space at a base pressure reflecting the pressure base of the applicable area of production and at a base temperature of 60°F.
- D. MMBtu. For all purposes hereunder, the term "MMBtu" as used herein shall mean one million (1,000,000) British thermal units, as measured on a dry basis.
- E. FORCE MAJEURE. Performance of the obligations under this Agreement shall be excused only in the event and only to the extent of a party's physical inability to perform due to equipment or facility constraints or Force Majeure. For purposes of this Agreement, equipment or facility constraints shall be construed to mean conditions that are outside of the normal design criteria of the existing equipment or facilities and which would prevent operation of the existing equipment or facilities under prudent industry standards. Force Majeure, for purposes of this Agreement, shall be construed to mean acts of God, mechanical failures, strikes, lockouts, workovers, necessary maintenance, governmental laws, orders, rules or regulations which specifically forbid or render unlawful performance (it being understood that such laws, orders, rules or regulations need not refer to SWEPI, SGTC or this Agreement by name), and

other such events beyond the control of either party; force majeure specifically shall not include market conditions, market prices, availability of markets, or governmental laws, orders, rules, or regulations not specifically forbidding or rendering unlawful performance.

- F. PAYMENT. Invoices for each month's Production shall be furnished by SWEPI to SGTC in the month following the month of Production; and each invoice shall be paid by SGTC on or before the 25th day following receipt of such invoice.

SWEPI shall mail all invoices to:

Shell Gas Trading Company
Attention Accounting Department
P. O. Box 2463
Houston, Texas 77252-2463

SGTC shall make payments by wire transfer to:

Shell Western E&P Inc.
c/o Chemical Bank
Depository Account No. 325-012539
227 Park Avenue
New York, New York 10172

- G. ASSIGNMENT. Neither party shall assign this agreement or any rights hereunder without the express written consent of the other party.

- H. NOTICES. All notices hereunder, if required, shall be in writing from either party to the other party at their addresses set out first above.

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- I. GENERAL. Any matters not specifically covered herein, arising in connection with this agreement, shall be handled in accordance with the custom and practice in the industry.

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EXHIBIT "A"

GAS SALE AND PURCHASE AGREEMENT
BETWEEN
SHELL WESTERN E & P INC. (SWEPI)
AND
SHELL GAS TRADING COMPANY (SGTC)

SWEPI GAS SOURCES

<u>Field/Plant</u>	<u>County/Parish</u>	<u>State</u>
(ZONE 1)		
Lockridge	Ward	Texas
Monahans	Ward/Winkler	Texas
Ratliff-Bedford	Andrews	Texas
Rosita	Duval	Texas
South Fullerton Plant	Andrews	Texas
Terrell Co. Plant	Terrell	Texas
TXL Plant	Ector	Texas
Wasson Plant	Yoakum	Texas
West Waha	Reeves	Texas
Drinkard	Lea	New Mexico
Monument	Lea	New Mexico
N. E. Drinkard Unit	Lea	New Mexico
Texaco Eunice Plant	Lea	New Mexico

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EXHIBIT "A" (CONT'D)

GAS SALE AND PURCHASE AGREEMENT
BETWEEN
SHELL WESTERN E & P INC. (SWEPI)
AND
SHELL GAS TRADING COMPANY (SGTC)

SWEPI GAS SOURCES

<u>Field/Plant</u>	<u>County/Parish</u>	<u>State</u>
(ZONE 2)		
Fandango	Zapata	Texas
Javelina	Hidalgo	Texas
La Gloria Plant	Jim Wells	Texas
McAllen Ranch	Hidalgo	Texas
North Rincon	Starr	Texas
-----	-----	-----
(ZONE 3)		
Houston Central Plant	Colorado	Texas
-----	-----	-----
(ZONE 4)		
Gibson/Humphries	Terrebonne	Louisiana
Kings Bayou	Cameron	Louisiana
West Lake Verrett	St. Martin	Louisiana
Weeks Island	Iberia	Louisiana

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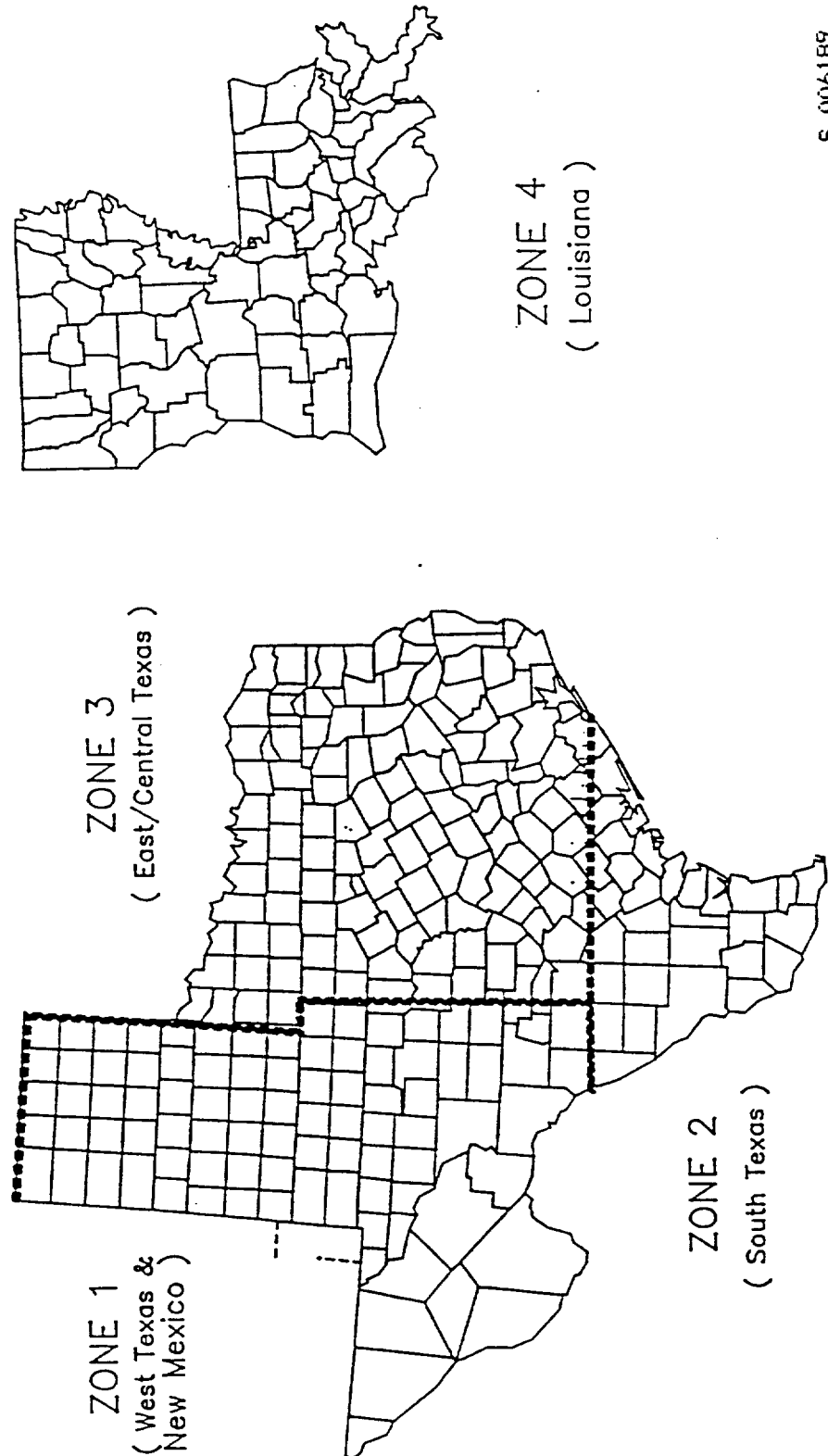
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EXHIBIT "B"

Gas Sale and Purchase Agreement

SWEPI — SGTC



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AMENDMENT TO NATURAL GAS PURCHASE AND SALE AGREEMENT
DATED JULY 1, 1988

WHEREAS, Shell Gas Trading Company ("SGTC") and Shell Western E&P Inc. ("SWEPI") are parties to that certain Natural Gas Purchase and Sale Agreement dated July 1, 1988, as amended (the "Agreement"); and

WHEREAS, SGTC and SWEPI desire to provide for treatment of certain gas now sold and purchased at the Fandango Plant in Zapata County, Texas, and to compensate SWEPI for additional operating costs attendant to such treatment,

NOW THEREFORE, SGTC and SWEPI hereby agree as follows:

I

SWEPI shall install and/or modify the existing gas treating facilities at the Fandango Plant in Zapata County, Texas, to provide treatment for the gas Production sold therefrom which will cause all such gas to meet a quality specification of two percent (2%) carbon dioxide or less.

II

The terms of the Agreement shall be amended as follows:

Section 1. Term shall be amended by adding the following language to the existing provisions:

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"Notwithstanding the term set forth herein above, SWEPI and SGTC agree that the primary period for sales of gas from the Fandango Plant in Zapata County, Texas, shall extend to and end at 8:00 a.m. Central time on May 1, 1993, and shall be automatically extended thereafter for one month periods unless terminated by either party giving the other party written notice at least thirty days prior to the effective date of termination."

Section 6. Price shall be amended by adding a new subsection (d) as follows:

"(d) Notwithstanding the provisions of Section 6(a) hereof, the price for SWEPI Production sold at the Fandango Plant shall be equal to the commodity value of Production at the Rosita Plant until such time as the Production sold at the Rosita Plant meets a quality specification of two percent (2%) or less carbon dioxide. In addition to the commodity value of Production sold at the Rosita Plant, SGTC agrees to pay a premium equal to \$0.0052 per MMBtu for all Production from the Fandango Plant which meets a quality specification of two percent (2%) or less carbon dioxide, from November 1, 1991, through October 31, 1992. At that time, SGTC and SWEPI shall renegotiate the amount of the premium (if any). In addition, SGTC agrees to pay \$0.02 per MMBtu for all Production from the Fandango Plant which meets a quality specification of two percent (2%) or less carbon dioxide as reimbursement of increased operating cost throughout the primary term of this Agreement, which ends at 8:00 a.m. Central Time on May 1, 1993. In the event Production sold at the Fandango Plant does not meet the above designated quality specification, SWEPI agrees to reimburse SGTC for any incremental costs of replacing such Production above those costs which would have been incurred hereunder."

Except as herein amended, the terms and conditions of the Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, this Amendment is executed to be effective November 1, 1990.

SHELL WESTERN E&P INC.

SHELL GAS TRADING COMPANY

By: 

R. M. Sprague
President

By: 

J.V.H. Current
President

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Shell Gas Trading Company

One Shell Plaza
P.O. Box 2463
Houston, TX 77252

August 10, 1989

Shell Western E&P Inc.
ATTN Mr. R. L. Sprague
President
P. O. Box 576
Houston, TX 77001

Gentlemen:

SUBJECT: AMENDMENT TO EXHIBIT "A" OF THE GAS SALE AND PURCHASE AGREEMENT
BETWEEN SHELL WESTERN E&P INC. AND SHELL GAS TRADING COMPANY
DATED JULY 1, 1988
(REF. SERVICE AGREEMENT SWEPI/SGTC/SOC)

The Gas Sale and Purchase Agreement between SWEPI and SGTC dated July 1, 1988 (the "Agreement") is hereby amended by this letter agreement to include fields listed in the accompanying attachment as SWEPI gas sources. A revised Exhibit "A" reflecting this amendment is included as an attachment to this letter agreement.

The effective date of this amendment is July 1, 1988. The requirement of provision 2 (Sources of Gas) for "mutual agreement of SGTC and SWEPI at least thirty days prior to such addition or exclusion" is hereby waived. This amendment is in full compliance with the provisions of the "Agreement". Any and all other provisions of the "Agreement" shall remain in full force and effect.

Very truly yours,



J. A. Rexrode
President

RMR:mkk

Attachment

AGREED AND ACCEPT
AS OF THE 25th DAY OF August, 1989

SHELL WESTERN E&P INC.

By: 

President

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15746

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EXHIBIT "A"

GAS SALE AND PURCHASE AGREEMENT
BETWEEN

SHELL WESTERN E&P INC. (SWEPI)
AND

SHELL GAS TRADING COMPANY (SGTC)

SWEPI GAS SOURCES

<u>Field/Plant</u>	<u>County/Parish</u>	<u>State</u>
(ZONE 1)		
Lockridge	Ward	Texas
Monahans	Ward/Winkler	Texas
Ratliff-Bedford	Andrews	Texas
South Fullerton Plant	Andrews	Texas
Terrell Co. Plant	Terrell	Texas
TXL Plant	Ector	Texas
Wasson Plant	Yoakum	Texas
West Waha	Reeves	Texas
Drinkard	Lea	New Mexico
Monument	Lea	New Mexico
N. E. Drinkard Unit	Lea	New Mexico
Texaco Eunice Plant	Lea	New Mexico

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EXHIBIT "A" (CONT'D)
 GAS SALE AND PURCHASE AGREEMENT
 BETWEEN
 SHELL WESTERN E&P INC. (SWEPI)
 AND
 SHELL GAS TRADING COMPANY (SGTC)

<u>SWEPI GAS SOURCES</u>		
<u>Field/Plant</u>	<u>County/Parish</u>	<u>State</u>
(ZONE 2)		
Fandango	Zapata	Texas
Javelina	Hidalgo	Texas
La Gloria Plant	Jim Wells	Texas
McAllen Ranch	Hidalgo	Texas
North Rincon	Starr	Texas
Rosita	Duval	Texas
(ZONE 3)		
Houston Central Plant	Colorado	Texas
(ZONE 4)		
Gibson/Humphries	Terrebonne	Louisiana
Kings Bayou	Cameron	Louisiana
West Lake Verrett	St. Martin	Louisiana
Weeks Island	Iberia	Louisiana

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 15748

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ATTACHMENT

ADDITIONS TO EXHIBIT "A"

GAS SALE AND PURCHASE AGREEMENT
BETWEEN
SHELL WESTERN E&P INC. (SWEPI)
AND
SHELL GAS TRADING COMPANY (SGTC)
DATED JULY 1, 1988

Fields connected to Southern Natural Gas Pipeline:

Tallahala Creek, Smith County, Mississippi
Verden S.E., Grady County, Oklahoma
E. Clinton, Custer County, Oklahoma

Fields connected to Tennessee Natural Gas Pipeline:

La Copita, Staff County, Texas
McAllen Ranch/Guadalupe, Hidalgo County, Texas
Seeligson, Jim Wells County, Texas
San Ramon, Hidalgo County, Texas
Ft. Cobb (East and West Caddo), Caddo County, Oklahoma
Lake Washington, Plaquemines Parish, Louisiana

Fields connected to Natural Gas Pipeline Co. of America:

Javelina/Rincon, Hidalgo County, Texas
Bryans Mill, Cass County, Texas
Camrick Field-Wilson #I-34, Beaver County, Oklahoma

Other Fields:

Turtle Bayou, Terrebonne Parish, Louisiana
S. State Line, Greene County, Mississippi
Black Bayou, Cameron Parish, Louisiana
Thomasville, Simpson County, Mississippi
Los Indios, Hidalgo County, Texas

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GAS TRADING BUSINESS AGREEMENT

This is a Gas Trading Business Agreement ("Agreement") dated June 1, 1987, effective as of April 26, 1986, by and between Shell Gas Trading Company ("Shell Gas Trading") and Shell Oil Company ("Shell Oil").

WHEREAS, Shell Gas Trading is in the business of conducting and promoting activities involving natural gas and other gaseous and liquid substances (collectively "gas"), which business includes without limitation, the initiation, negotiation, execution and administration of agreements for the sale, purchase, exchange and other marketing of gas, for the transportation, storage and processing of gas, and the transaction of other activities in connection therewith, including trading, investing and dealing (collectively "gas trading business");

WHEREAS, Shell Gas Trading in the conduct of its gas trading business is required or desires from time to time to execute certain documents, to include without limitation, various and sundry agreements and contracts, correspondence and communications, filings in administrative and judicial proceedings, and other instruments which give written

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SW-056158

expression to corporate acts, deeds and intent (all inclusive and collectively "written materials");

WHEREAS, Shell Gas Trading, consistent with its Services Agreement with Shell Oil dated April 28, 1986 (the "Services Agreement"), has requested Shell Oil to provide services for the efficient conduct of its gas trading business on the best terms available under then-current market conditions and appropriately documented by written materials;

WHEREAS, Shell Oil has employees who have the requisite expertise and personnel to facilitate the conduct of such gas trading business on competitive terms and as desired or required by Shell Gas Trading; and,

WHEREAS, Shell Gas Trading and Shell Oil have determined that it is in their respective best interests to formalize arrangements made pursuant to the Services Agreement by entering into an agreement whereby Shell Oil employees will provide services to Shell Gas Trading in connection with its gas trading business.

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NOW, THEREFORE, in consideration of the above recitals and mutual covenants contained herein, Shell Gas Trading and Shell Oil agree as follows:

1. Services. During the term of this Agreement, Shell Oil will provide or otherwise make available employees to perform such services and undertake such activities as may from time to time be requested by Shell Gas Trading or required in the administration, coordination and management of its gas trading business. In doing so, such Shell Oil employees will assume the responsibility to initiate, negotiate and execute all matters in connection with such gas trading business, to include without limitation: (a) the preparation, amendment, termination and record retention of all written materials, (b) the participation in all local, state or federal administrative, legislative or judicial proceedings as is appropriate or required; and, (c) the compliance with all applicable local, state and federal regulations and laws.

2. Execution of Written Materials: Certain Shell Oil employees are authorized to execute for or in the name or on behalf of Shell Gas Trading all written materials which are appropriate to or required in the normal conduct of its gas trading business or necessary to the performance of services

SW-056160

or undertakings of activities hereunder, provided however, that Shell Oil employees are not authorized to execute any contracts or agreements between Shell Oil itself or any of its subsidiary or affiliated companies and Shell Gas Trading unless prior written approval is obtained from a duly authorized officer or representative of Shell Gas Trading. This authority is evidenced by a Power of Attorney instrument executed by the President of Shell Gas Trading, which instrument is attached hereto as Exhibit A and incorporated herein by reference.

3. Regulatory Matters: It is understood that the conduct of the gas trading business of Shell Gas Trading and the performance of services and undertaking of activities hereunder by Shell Oil employees may involve matters within the jurisdiction of various local, state and federal regulatory agencies, to include without limitation, the Federal Energy Regulatory Commission ("Commission"). In such event, this Agreement shall not require the performance of any services or undertaking of any activities by Shell Oil employees for or in the name or on behalf of Shell Gas Trading which would subject Shell Oil itself to the jurisdiction of the Commission or any other local, state or federal regulatory agency, or cause Shell Oil to be considered a natural gas company engaged in the

transportation of natural gas in interstate or intrastate commerce under any local, state or federal regulation or law, to include the federal Natural Gas Act of 1938 and the Federal Natural Gas Policy Act of 1978, as amended.

4. Standard of Performance: Shell Oil employees shall perform services and undertake activities hereunder in a manner they believe to be in the best interests of Shell Gas Trading, using best efforts and prudent care as would be exercised by others in a like position under similar circumstances and in accordance with prevailing industry standards and practices, with due regard to compliance with all applicable laws and regulations, to include those of the Commission. It is understood that Shell Gas Trading expects all of its gas trading business to be conducted diligently and efficiently, with all transactions negotiated and consummated at the highest value and least expense as can be achieved under then-prevailing competitive and economic conditions. Accordingly, Shell Oil employees are without authority hereunder to cause Shell Gas Trading to enter into any transaction that is not intended to be of monetary gain or other valuable benefit to Shell Gas Trading unless prior written approval is obtained from a duly authorized officer or representative of Shell Gas Trading.

5. Compensation: For the services performed and activities undertaken hereunder by Shell Oil employees, Shell Gas Trading shall pay Shell Oil, as reimbursement, at a rate equal to that as is provided in the Services Agreement.

6. Accounting: Shell Oil shall maintain books and records which fairly reflect, in reasonable detail, the quantities of gas sold, purchased, exchanged, transported, stored, processed or otherwise involved in the conduct of the gas trading business of Shell Gas Trading, and the value of all transactions of such business. Shell Oil and Shell Gas Trading will review such books and records from time to time to assure the proper documentation of the transactions and the administration of same by Shell Oil. Shell Oil and Shell Gas Trading understand that from time to time it may be in the best interests of Shell Gas Trading for the books and records to reflect the exchange, trade-off or other adjustment of quantities and values in transactions conducted between Shell Gas Trading and Shell Oil or any of its subsidiaries or affiliated companies, particularly any transactions which are made in connection with gas pipeline business, natural gas marketing, and natural gas processing marketing agreements as exist between Shell Oil and some of its subsidiary companies. Shell Gas Trading acknowledges the existence of these agreements and authorizes Shell Oil to

take such actions as are consistent therewith, provided it consults with Shell Gas Trading prior to making any such adjustment.

7. Term: This Agreement shall be in effect from the effective date until December 31, 1987, and shall continue automatically thereafter for successive calendar year-to-year terms, but may be terminated by either Shell Gas Trading or Shell Oil at any time by either party giving the other at least 90 days' notice.

8. Assignment: Shell Gas Trading and Shell Oil shall not assign any of their respective interests in this Agreement without first obtaining the other's prior written consent.

9. Relation to Other Agreements: Shell Gas Trading and Shell Oil have entered into the Services Agreement for performance of general services by Shell Oil to Shell Gas Trading, which agreement from time to time may be supplemented, revised or otherwise amended. Shell Gas Trading and Shell Oil also from time to time may enter into other agreements with respect to natural gas transactions and other business matters. This Agreement shall be interpreted as consistent with or, as appropriate, supplemental to the

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UAG8710501

Services Agreement or any other existing or prospective agreements, and shall not be deemed to supersede or modify any of them.

10. Notices: Every notice shall be in writing and may be by letter, telegram or any other means of written communication addressed to the party for whom intended. Any notice given by certified or registered letter, or by telegram, shall be deemed given when the letter is deposited in the U.S. mail or the telegram with the telegraph company. Any notice given otherwise shall be deemed given upon receipt. The persons to whom and addresses at which notices are to be given are as follows, or as either party may subsequently substitute by notice given to the other:

President
Shell Gas Trading Company
P. O. Box 2463
Houston, Texas 77252-2463

General Manager - Natural Gas
Shell Oil Company
P. O. Box 2463
Houston, Texas 77252-2463

12. Entirety, Execution and Succession: This Agreement constitutes the entire agreement by and between Shell Gas

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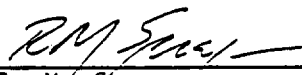
Trading and Shell Oil concerning the provisions hereof. This Agreement shall bind and inure to the benefit of any successors or assigns of either party.

EXECUTED as of June 1, 1987, effective as of April 28, 1986.

SHELL GAS TRADING COMPANY

SHELL OIL COMPANY

By 
J. H. Sheffield,
President

By 
R. M. Sprague,
Vice President-Production

UAG8710501

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EXHIBIT A

Attached to and made a part of Gas
Trading Business Agreement dated
April 28, 1986, by and between Shell
Gas Trading Company and Shell Oil
Company.

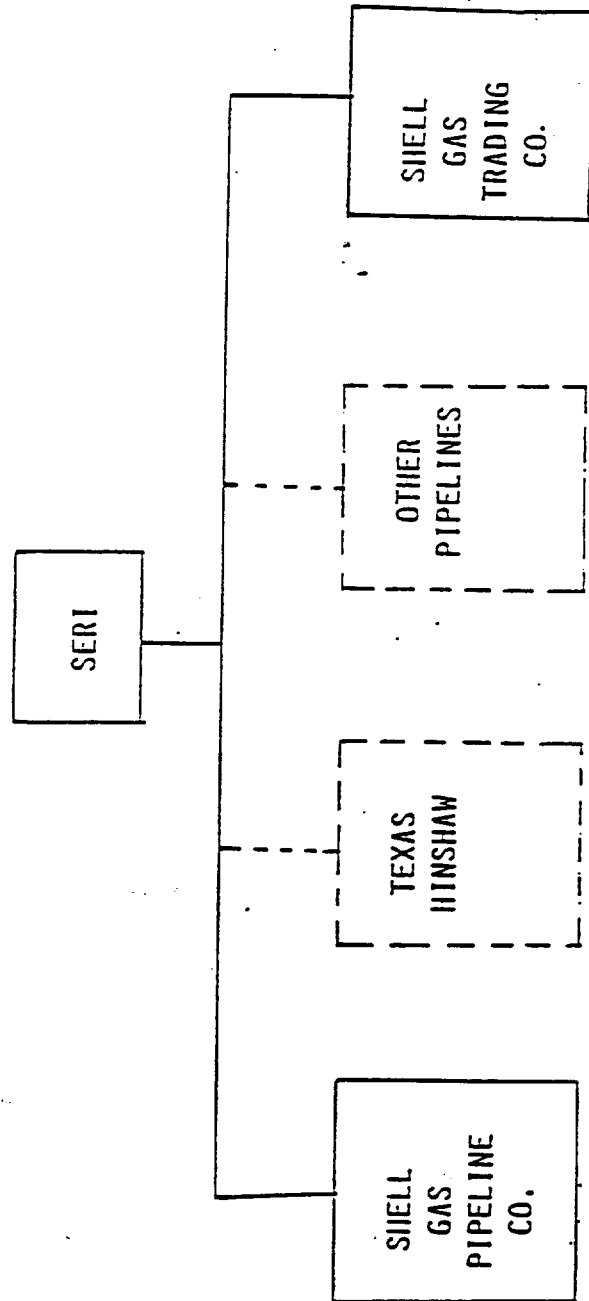
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SW-056167

EXHIBIT A

File
SSTC

ORGANIZATION STRUCTURE



SW-056168

65330

SHELL GAS TRADING COMPANY (SGTC)
CORPORATE STATISTICS

INCORPORATED

APRIL 22, 1986

DIRECTORS

R. F. NELSON - CHAIRMAN
J. H. SHEFFIELD
T. G. JOHNSON
E. W. KYLE
M. J. SCHNEIDER

OFFICERS

J. H. SHEFFIELD - PRESIDENT
R. J. COSELLI - VICE PRESIDENT (TAX)
S. R. NATENBERG - SECRETARY
J. B. CASTLES - TREASURER
L. R. SPITZENBERGER - ASSISTANT SECRETARY

6/9/86

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SHELL GAS TRADING COMPANY
CORPORATE STATISTICS

AFFILIATIONS

PARENT COMPANY	SHELL ENERGY RESOURCES INC.
SERVICES AGREEMENTS	SHELL OIL COMPANY
MANAGEMENT AND BUSINESS FOCUS	SHELL OIL - NATURAL GAS
ACCOUNTING	SOI, SWEPI, SCPI

EXISTING AUTHORITIES

CONTRACTUAL	PRESIDENT SGTC
NON-BINDING	" "

AUTHORIZED STATES

CERTIFICATE FILED	TEXAS
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FINANCIAL

SHELL OIL COMPANY LINE OF CREDIT	\$5 MM
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SW-056170

SHELL GAS TRADING COMPANY
CORPORATE STATISTICS

BUSINESS PURPOSE: CONDUCT ACTIVITY RELATED TO THE
PURCHASING, SELLING, MARKETING,
TRANSPORTATION, STORING, TRADING,
INVESTING, PROCESSING, AND DEALING
IN GASEOUS AND LIQUID SUBSTANCES,
AND TO ENGAGE IN ANY LAWFUL ACT OR
ACTIVITY FOR WHICH CORPORATIONS MAY
BE ORGANIZED UNDER THE GENERAL
CORPORATION LAW OF DELAWARE.

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SW-056171

SHELL GAS TRADING COMPANY

REGULATORY ISSUES

JURISDICTIONAL COMPANY - SGPC

- SHELL GAS PIPELINE COMPANY (SGPC) WAS FORMED PRIMARILY TO ACT AS A TRANSPORTER OF NATURAL GAS -- SGPC IS SUBJECT TO FERC JURISDICTION

NON-JURISDICTIONAL COMPANY-SGTC

- IT IS NOT INTENDED FOR SGTC TO BECOME INVOLVED IN THE TRANSPORTATION OF NATURAL GAS IN INTERSTATE COMMERCE
- A LOCATION EXCHANGE HAS THE SAME REGULATORY IMPLICATIONS AS TRANSPORTATION

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SW-056172

SHELL GAS TRADING COMPANY

OBJECTIVES

INITIAL

- MOVE SHELL "POOL" GAS WHICH IS SOURCED FROM MORE THAN ONE PRODUCTION SUBSIDIARY
- SERVE AS A PURCHASER AND RESELLER WHEN OPPORTUNITIES ARISE
- SERVE AS 15 YEAR BUYER

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SW-056173

SHELL GAS TRADING COMPANY

PROPOSED AUTHORITIES

ESTABLISH GAS MARKETING AGREEMENT

- SOC WILL PROVIDE EMPLOYEES AS NECESSARY TO MARKET AND ARRANGE TRANSPORTATION OF GAS FOR SGTC, AND ASSUME RESPONSIBILITY TO INITIATE, NEGOTIATE, AND ADMINISTER SALES, PURCHASE, EXCHANGE, AND RELATED ANCILLARY CONTRACTS.
- SHOULD SOC - NATURAL GAS EMPLOYEES SIGN NON-BINDING CORRESPONDENCE ON SGTC LETTERHEAD?

ESTABLISH POWER OF ATTORNEY

- POWER OF ATTORNEY MUST BE DELEGATED UPWARD FROM PRESIDENT - SGTC TO VICE PRESIDENT PRODUCTION - SOC.
- VICE PRESIDENT PRODUCTION WILL APPOINT APPROPRIATE ATTORNEY-IN-FACT-SGTC AUTHORITIES.
- J. R. GATTIS
- R. P. GUILBAULT
- E. W. KYLE
- C. SCHWENKER

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SW-056174

SHELL GAS TRADING COMPANY

ACTION ITEMS

1. EXECUTE MARKETING AGREEMENT WITH SOC
2. ARRANGE FOR NECESSARY AUTHORITIES
3. DETERMINE WHICH NATURAL GAS' EMPLOYEES SHOULD SIGN
NON-BINDING CORRESPONDENCE ON SGTC LETTERHEAD
4. SELECT STATES WHERE SGTC SHOULD BE CERTIFIED TO DO
BUSINESS.

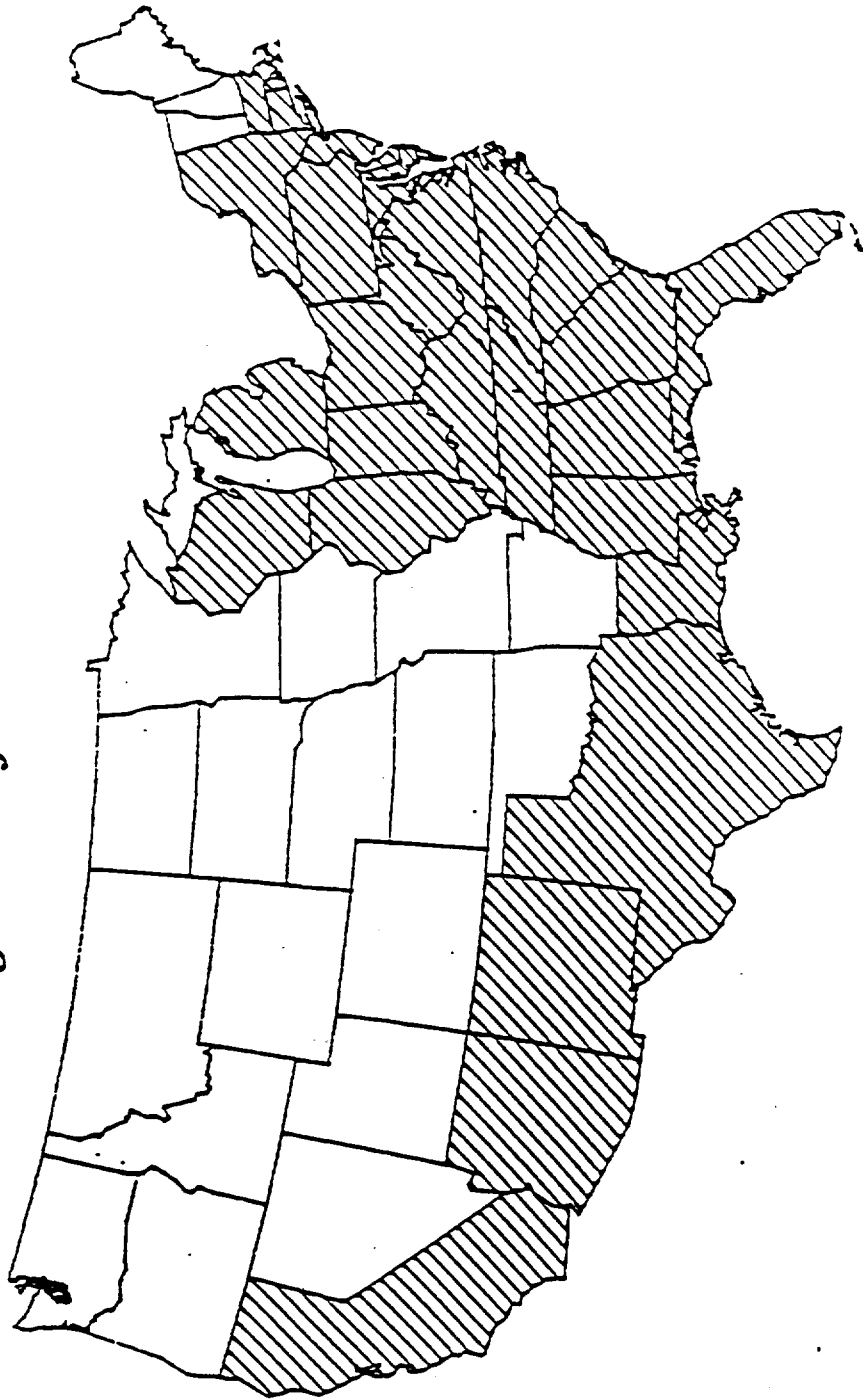
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SW-056175

*Shell Gas Trading Co.
Regions of Interest*



SW-056176

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SHELL GAS PIPELINE COMPANY (SGPC)
OVERVIEW

CONFIDENTIAL - SUBJECT
CONFIDENTIALITY ORDER

INCORPORATED

APRIL 22, 1986

AFFILIATIONS

PARENT COMPANY

SHELL ENERGY RESOURCES INC.

SERVICE AGREEMENTS

SHELL OIL COMPANY
SHELL OFFSHORE INC.
SHELL PIPE LINE CORP.

MANAGEMENT AND
BUSINESS FOCUS

SHELL OIL - NATURAL GAS

ACCOUNTING

SHELL PIPE LINE CORP.

AUTHORITIES

EXISTING

PRESIDENT SGPC

PROPOSED

MANAGER - PROGRAMS DEVELOPMENT
MANAGER - TRANSPORTATION &
EXCHANGE

AUTHORIZED STATES

CERTIFICATE FILED

TEXAS

FINANCIAL

CAPITALIZATION

\$9.5 MM

SHELL LINE OF CREDIT

\$1 MM

6/9/86

SW-056177

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McKINSEY
STUDY
REPORTS

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TRG.

ENHANCING SHELL'S POSITION IN
THE NATURAL GAS INDUSTRY

SHELL EXPLORATION AND PRODUCTION

G.E.O. Presentation

February 1986

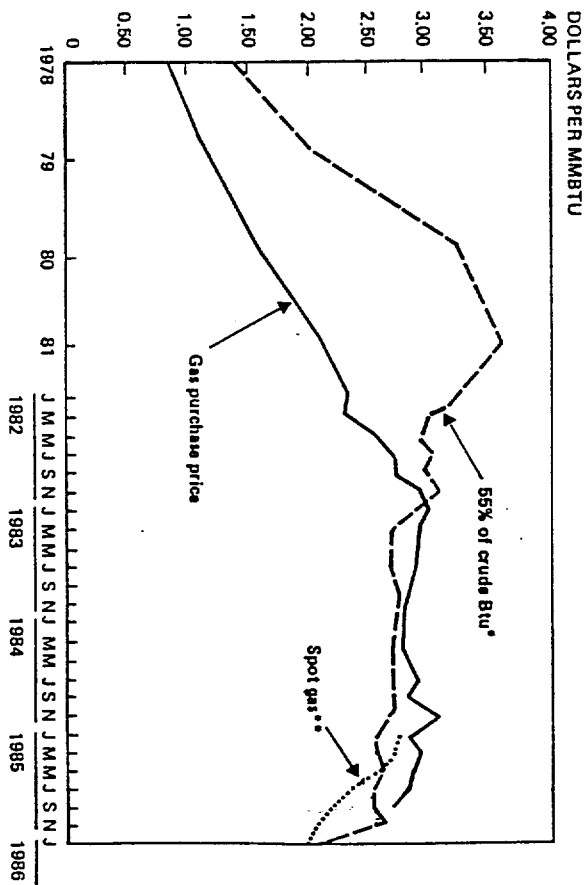
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RETURN TO J. H. SHEFFIELD
ONE SHELL PLAZA, ROOM 4102-B

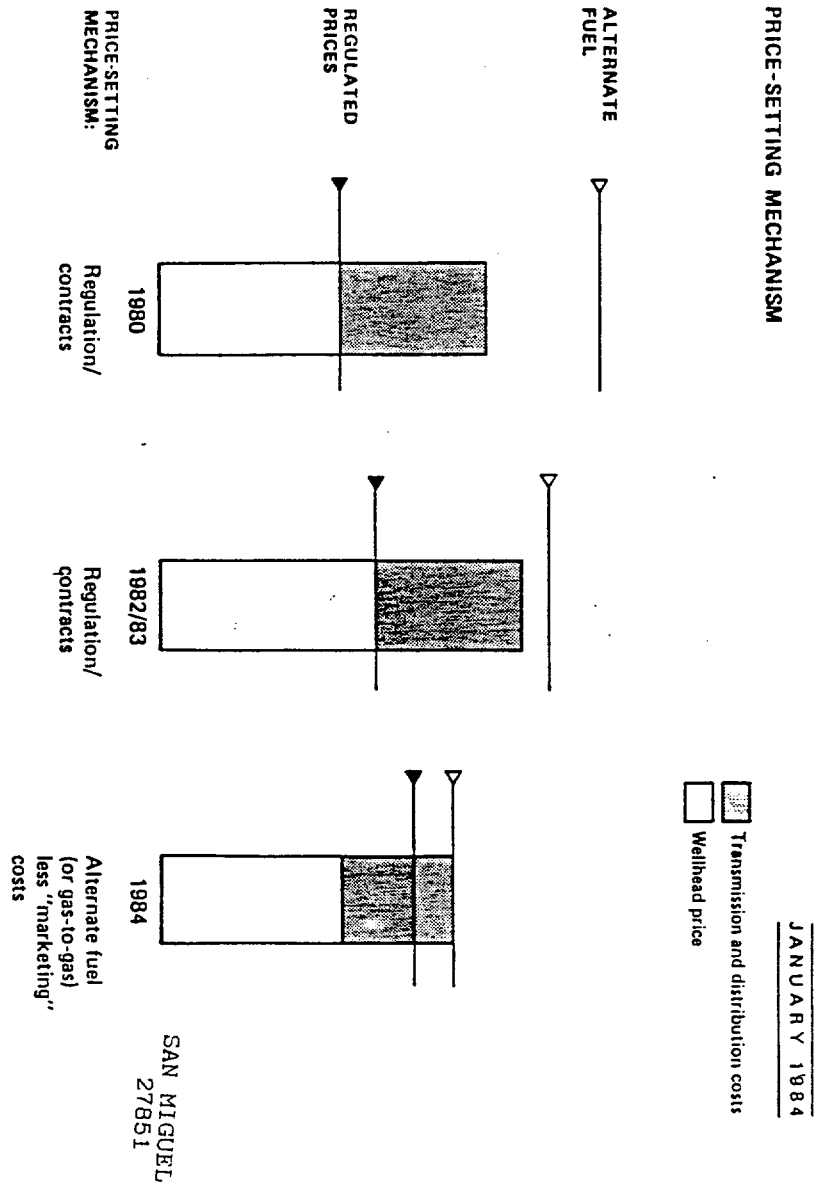
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PRICES PAID TO PRODUCERS FOR NATURAL GAS BY
MAJOR INTERSTATE PIPELINES



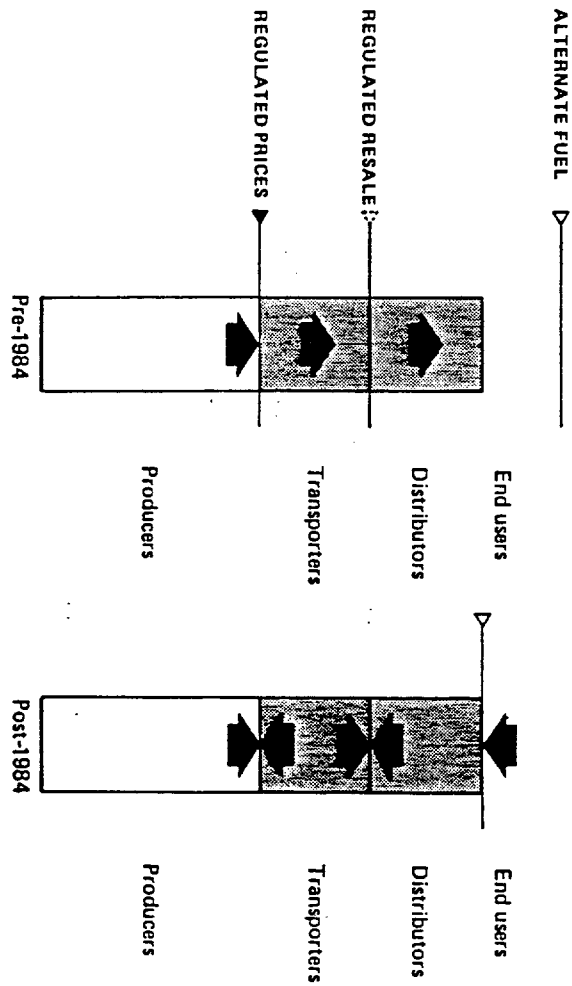
* Refiner average crude acquisition cost, except for November 1985 through January 1986, which are based on spot postings
 ** Average of Tenggascos Texas and Louisiana postings
 Source: EIA; Platt's; Morgan Stanley; Inside FERC

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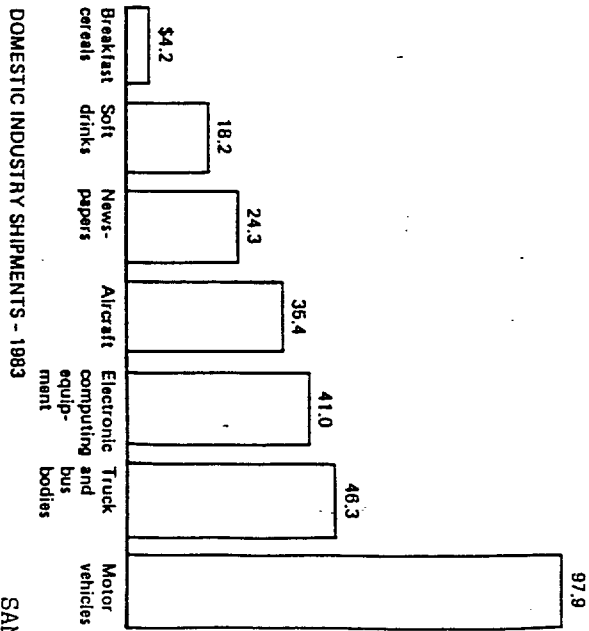
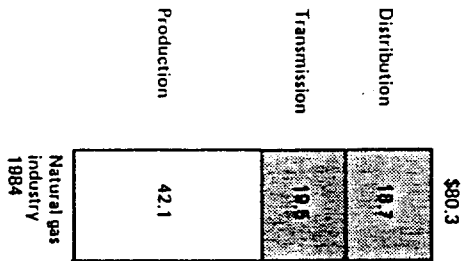
CHANGING INDUSTRY DYNAMICS

JANUARY 1984



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COMPARATIVE INDUSTRY SIZES
Dollars billions

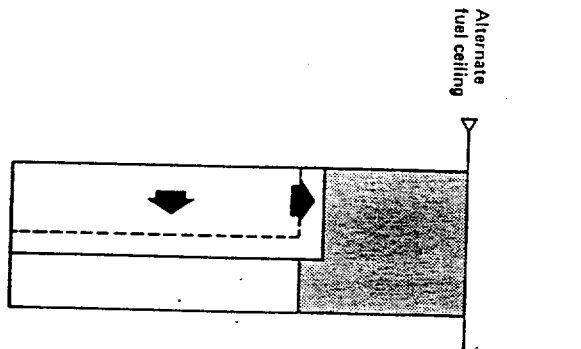


DOMESTIC INDUSTRY SHIPMENTS - 1983

Source: EIA, *Natural Gas Monthly*; AGA, *Gas Facts*; U.S. Industrial Outlook - January 1984; McKinsey analysis

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IMPACT OF MARKETING PROGRAMS



JANUARY 1984

Transmission and distribution costs
Wellhead price

SHELL ACTIONS - EARLY 1984

Centralized most gas marketing functions

Initiated individual pipeline strategies

- For well positioned pipelines, it developed a program directed towards future gas sales
- For poorly positioned pipelines, it developed a program directed towards maximizing current contract performance

Began to identify direct sales opportunities

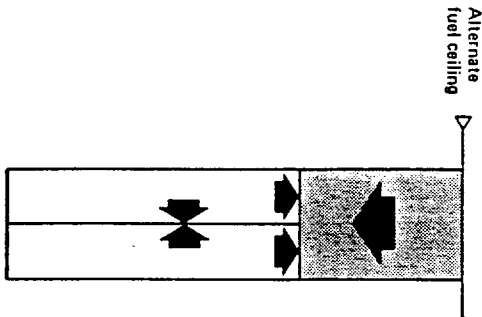
Added organizational capability

- Developed key account management capability
- Developed strategic/market planning capability for natural gas

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LONGER-TERM INDUSTRY DYNAMICS



- ☒ Transmission and distribution costs
- ☐ Wellhead price

SOURCES OF PIPELINE LEVERAGE OVER PRODUCERS

Relative industry concentration *It's have alt. supplies and can reduce takes from uncorp. producer.*
 Regulatory support
 Barriers to competition *Producer can not restructure.*

SUSTAINABILITY OF SHELL'S POSITION RELATIVE TO OTHER PRODUCERS

Not a preemptive strategy.

- Organizational approaches can be copied
- Perspective on prices, pipeline attractiveness likely to become widely shared

Further industry change could allow competitor to "leapfrog"

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OBJECTIVES OF RECENT ACTIVITIES

UPDATE EARLIER PERSPECTIVE ON THE EMERGING STRUCTURE OF THE
NATURAL GAS INDUSTRY AND IDENTIFY OPPORTUNITIES/THREATS FOR
SHELL

DETERMINE ADDITIONAL STEPS SHELL SHOULD TAKE TO ENHANCE ITS
POSITION IN THE INDUSTRY

DETERMINE ORGANIZATIONAL MODIFICATIONS REQUIRED TO SUPPORT ANY
SHIFTS IN GAS MARKETING STRATEGY

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PRINCIPAL CONCLUSIONS

FUNDAMENTAL CHANGES IN INDUSTRY STRUCTURE OFFER SHELL THE OPPORTUNITY, THROUGH HIGHLY TARGETED, PREEMPTIVE ACTIONS, TO ALTER THE INDUSTRY ~~BALANCE OF POWER~~ AND SIGNIFICANTLY IMPROVE PROFITABILITY

CAPTURING THIS OPPORTUNITY WILL REQUIRE IMMEDIATE STEPS IN THREE BROAD AREAS:

- SHELL SHOULD DEVELOP THE CAPABILITY TO MARKET GAS TO ~~PREMIUM~~ AND END-USER MARKETS
- SHELL SHOULD DEVELOP AN ASSET POSITION AT CRITICAL POINTS ALONG THE ~~UPSTREAM TRANSPORT~~ SYSTEM
- SHELL SHOULD TARGET ITS MARKETING EFFORTS TO ALLOW IT TO ~~SQUEEZE DOWNSTREAM TRANSPORT MARGINS~~

AN INCREASED EMPHASIS ON DIRECT MARKETING WILL REQUIRE NEW/ENHANCED ORGANIZATIONAL CAPABILITIES

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TODAY'S DISCUSSION

INDUSTRY RESTRUCTURING AND OPPORTUNITY FOR SHELL

STEPS TO CAPTURE THE OPPORTUNITY

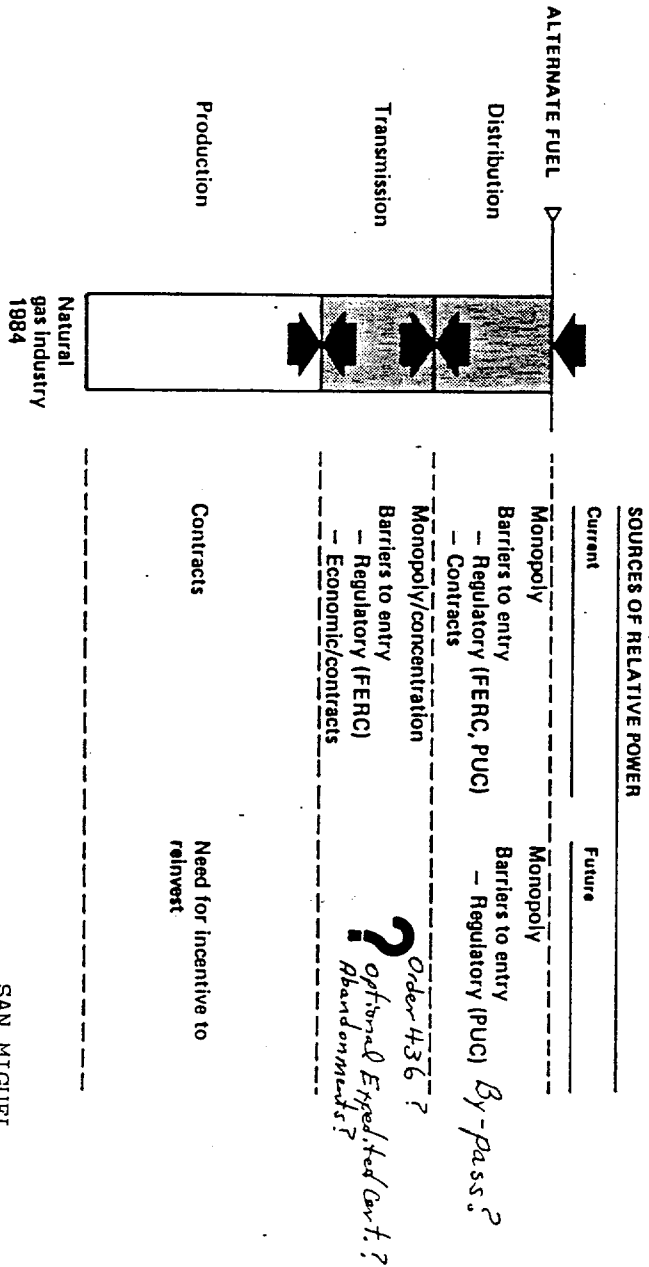
NEEDED ORGANIZATIONAL ENHANCEMENTS

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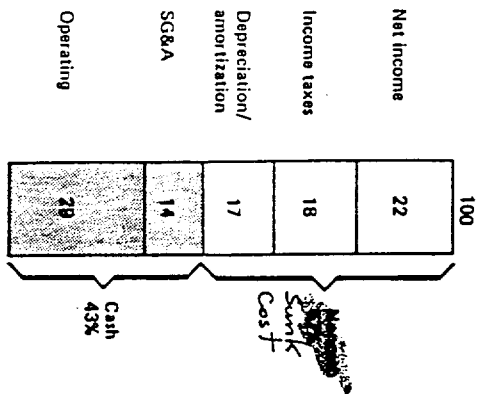
INDUSTRY RESTRUCTURING
AND OPPORTUNITY FOR SHELL

RELATIVE PARTICIPANT POWER

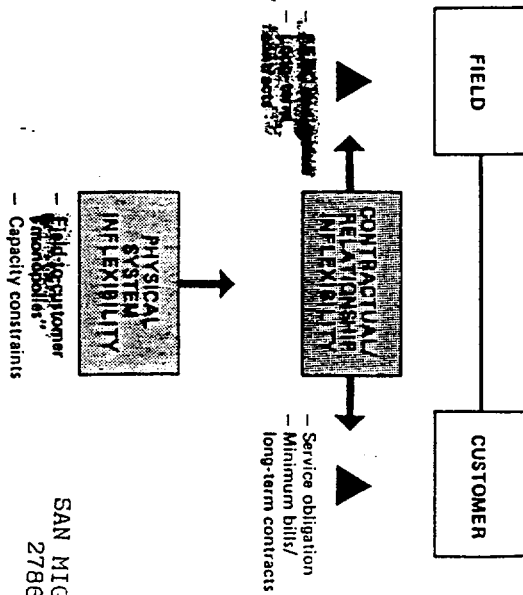


PARTICIPANT POWER – TRANSMISSION

VULNERABILITY - TYPICAL PROBLEMS IN COST STRUCTURE
Percent of revenue



SOURCES OF MARGIN CONTROL – HISTORIC



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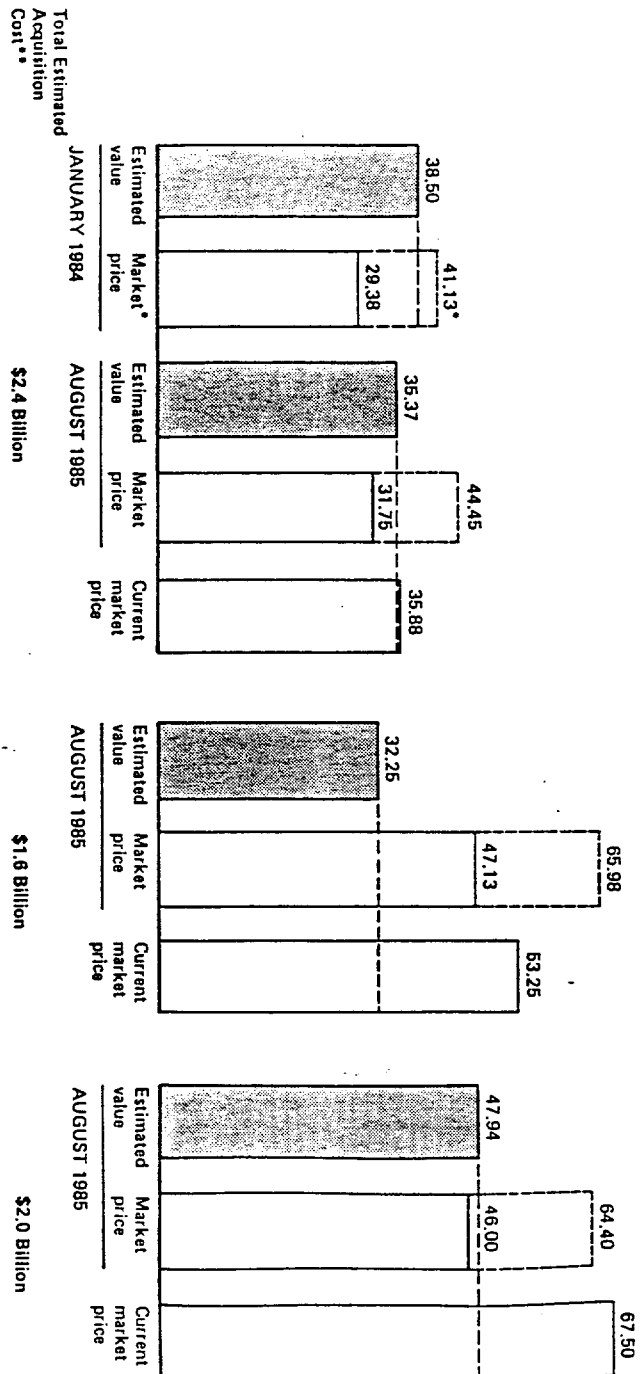
VALUE OF COMMON EQUITY OF SEVERAL INTERSTATE PIPELINES

JANUARY 31, 1986

TEXAS EASTERN

TRANSCO

MIDCON



* Upper end of range represents acquisition premium of 40% over market price
 ** August 1985 market price plus 40% acquisition premium
 Source: McKinsey analysis

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PRESSURES FOR CHANGE

CONTRACTUAL/REGULATORY FLEXIBILITY

New Fields
 "Feed-up" gas supplies
 - Excess deliverability
 - ~~Reduced~~ deliverability
 - Abandoned deliverability

Contract abrogation
 "Erythronas"

Flexible regulatory climate
 - Philosophy
 - Order 438

*Inertive Reg. w/ Oversight Back-up
 vs
 Detail Oversight*

REDUCTION/
 ELIMINATION
 OF "CONTROL"

PHYSICAL SYSTEM FLEXIBILITY

Overcapacity 22 TCF/yr.
 vs
 17 TCF/yr.

w/ 14 TCF/yr. Forecast

Flexible Infrastructure
 - Route network
 - Interchanges

*Winter Peak customers vs Summer Peak
 weather Demand variations by Region
 "Season Cycle Trade-Offs"*

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GAS PIPELINE INDUSTRY STRUCTURE

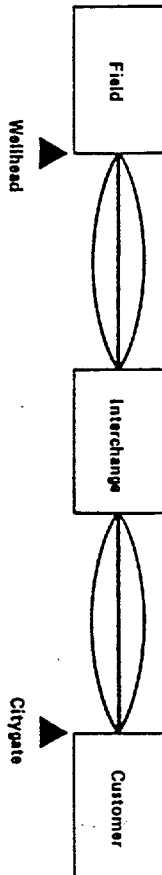
TRADITIONAL STRUCTURE



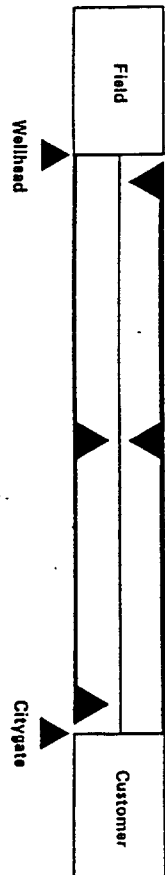
Wellhead
FERC dedication
Long-term contracts

Citygate
Service obligation
Long-term contracts

~~EMERGING STRUCTURES~~ PHYSICAL SYSTEM



CONTRACTUAL RELATIONSHIPS

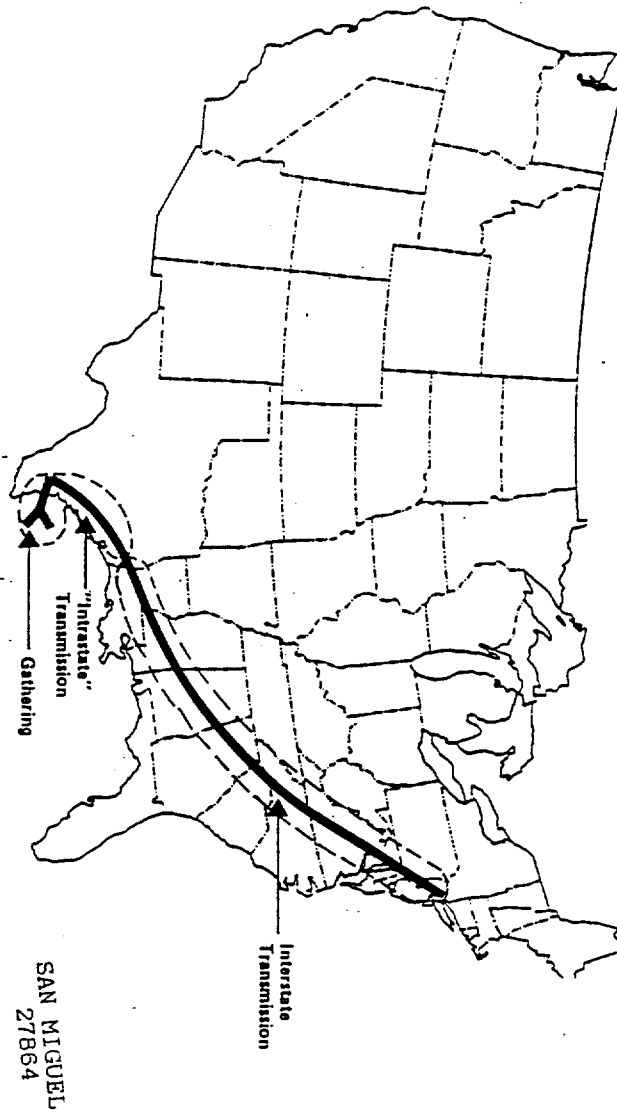


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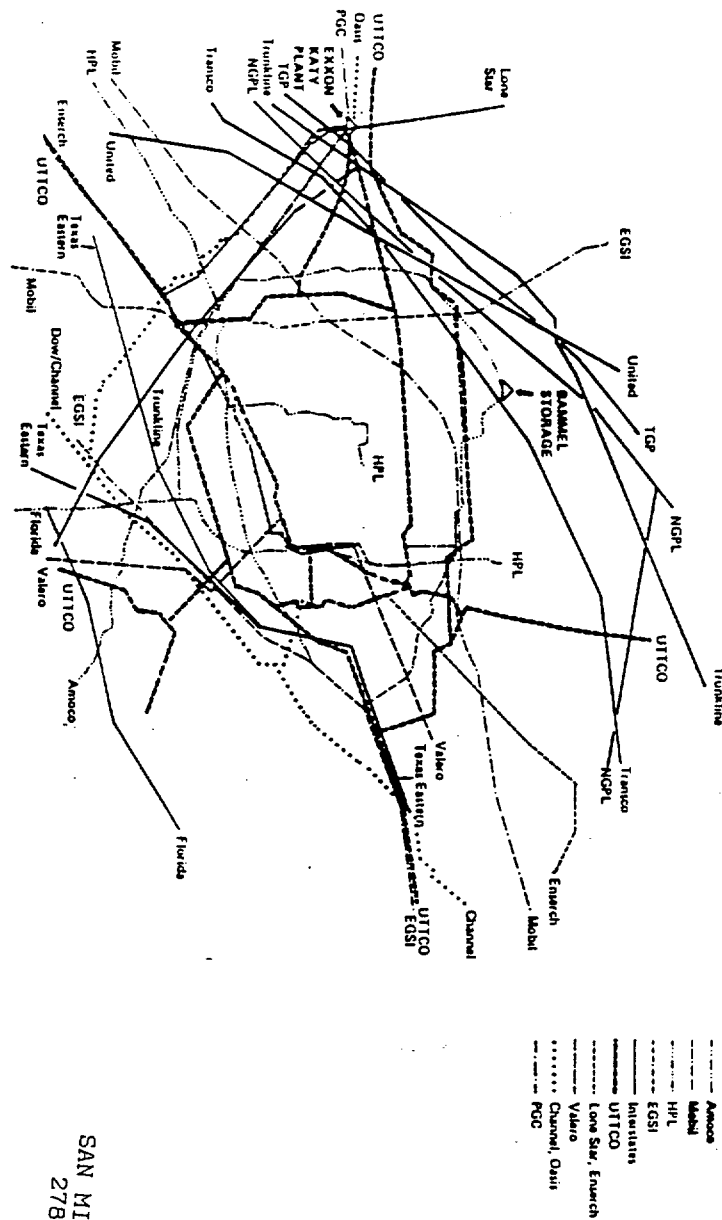
PHYSICAL SYSTEM

"TYPICAL" PIPELINE SYSTEM

ILLUSTRATIVE

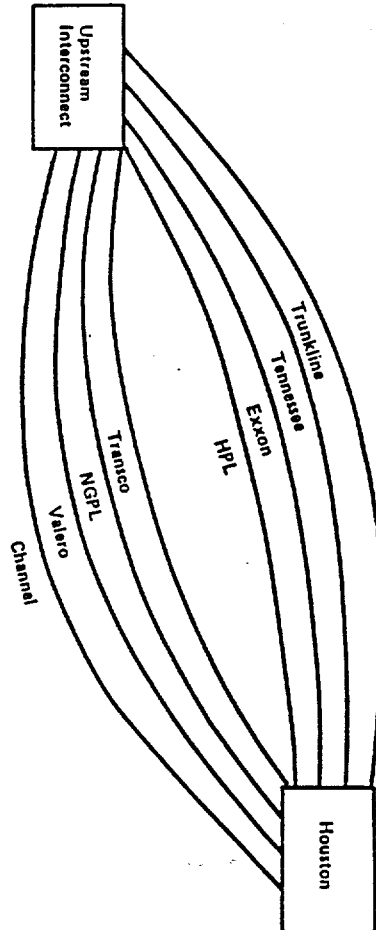


HOUSTON AREA PIPELINES



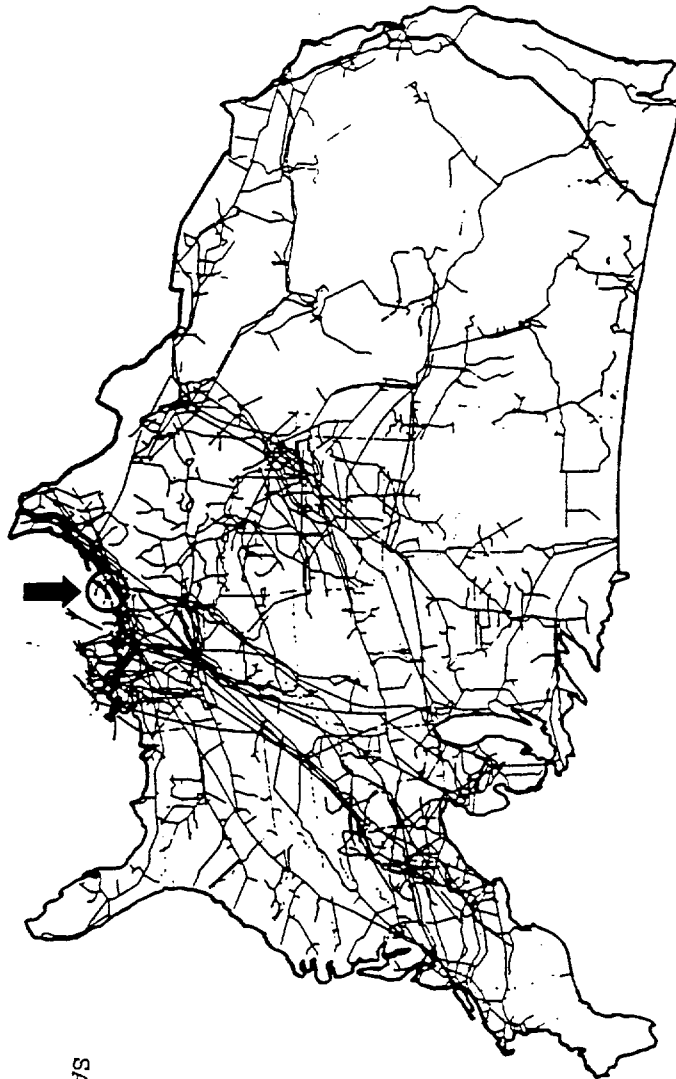
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TEXAS COAST PIPELINE NETWORK



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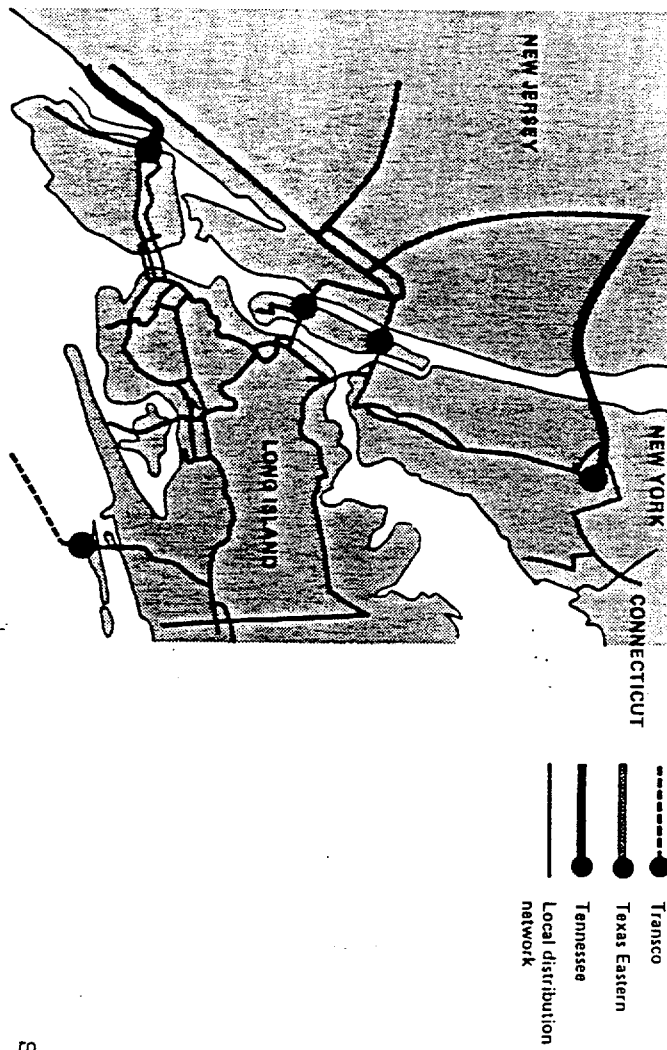
INTERSTATE NATURAL GAS PIPELINES



Source: FERC

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NEW YORK AREA PIPELINE NETWORK

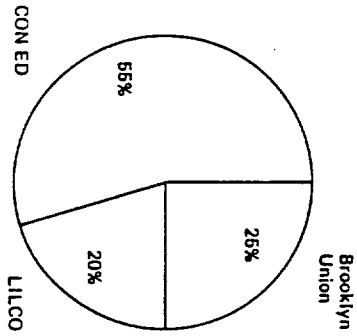


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ESTIMATED TAKE FLEXIBILITY - NEW YORK AREA

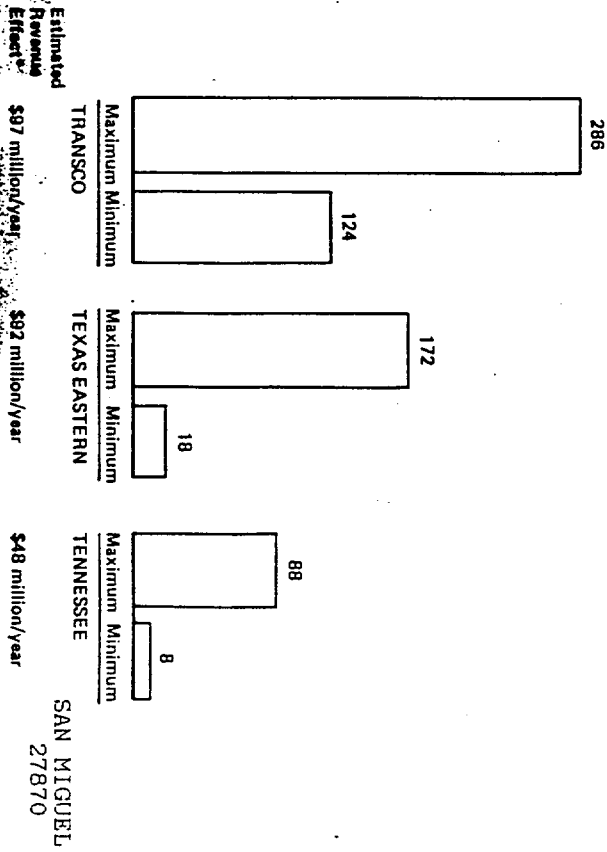
CURRENT PURCHASES

100% = 362 Bcf/year

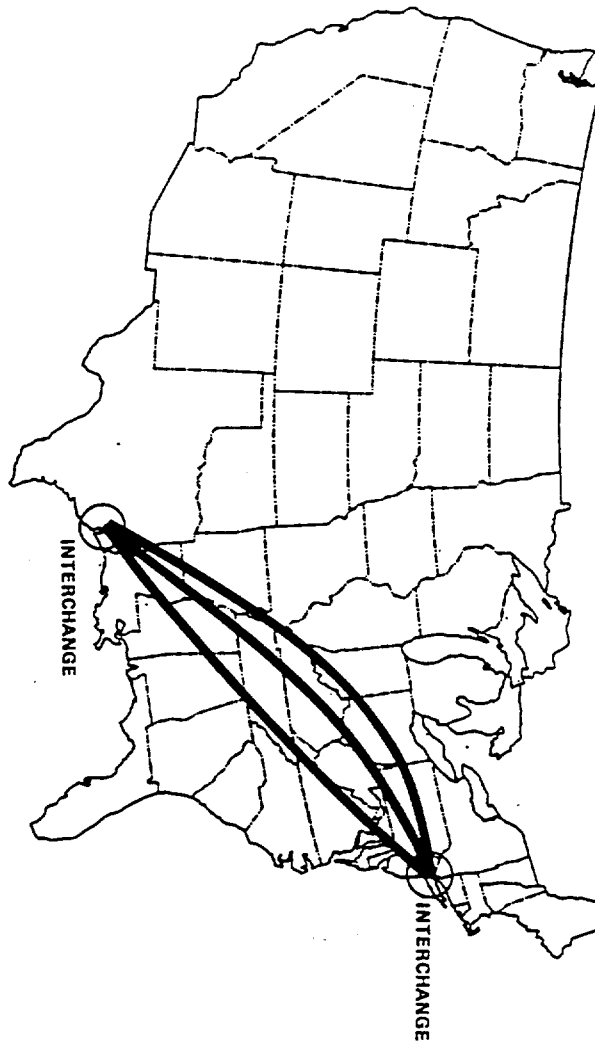


* Assumes lost margin of \$0.60/Mcf displaced

ABILITY TO SWING PIPELINES
Range of required takes - Bcf/year

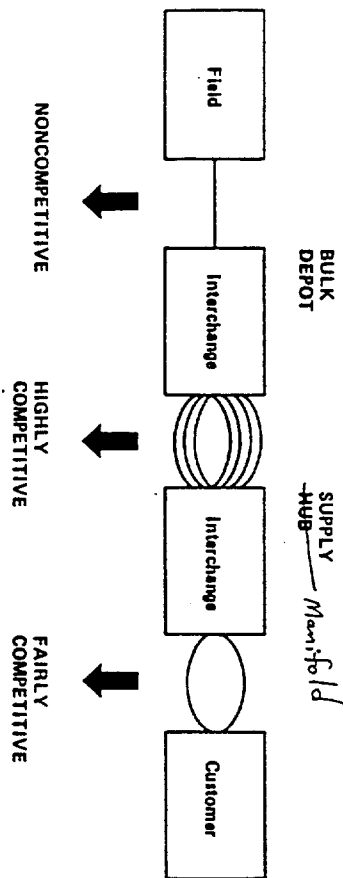


U.S. PIPELINE MAP



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EVOLVING INDUSTRY STRUCTURE



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IMPLICATIONS - TRANSPORT

TRANSPORT INDUSTRY UNDERGOING FUNDAMENTAL CHANGE

- INCREASING OPTIONS
- GREATER POTENTIAL LEVERAGE

It's increasing portion of 3rd party Transport and reducing Resell business.

NETWORK NATURE OF NATIONAL SYSTEM COMBINED WITH OVERCAPACITY
WILL INCREASE OVERALL COMPETITIVENESS

INTENSITY OF COMPETITIVENESS WILL VARY DRAMATICALLY

- BASED ON REGION
- BASED ON ABILITY OF PRODUCERS/CUSTOMERS TO ACCESS OPTIONS

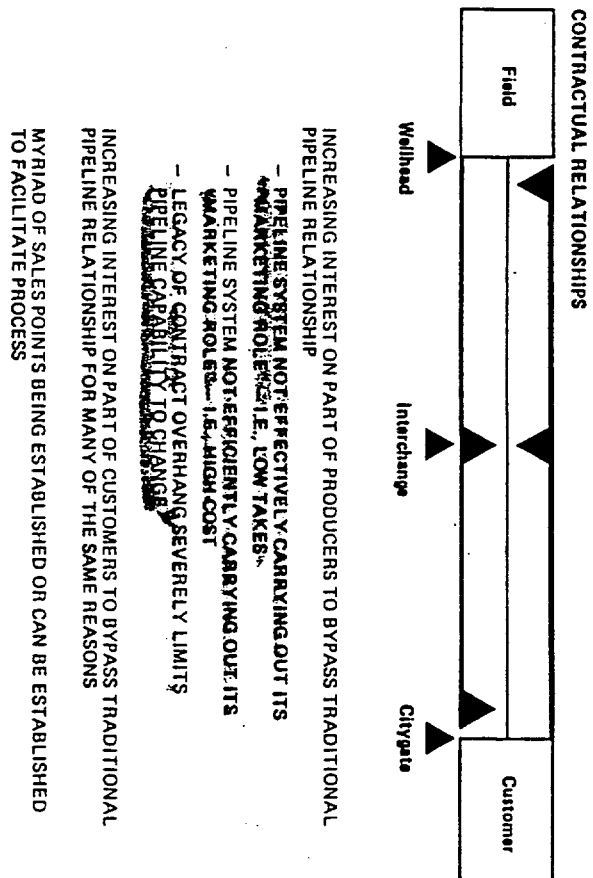
IN KEEPING WITH OTHER DEREGULATING INDUSTRIES, PIPELINES WILL
SHIFT COSTS/MARGINS TO LEAST COMPETITIVE SEGMENTS AND LEAST
FLEXIBLE CUSTOMERS

*It is that bus transport from
other bus are having
dearly.*

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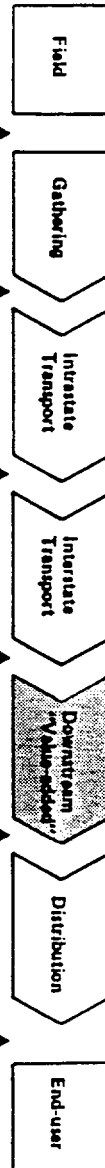
CONTRACTUAL RELATIONSHIPS

BASIS FOR CHANGES IN CONTRACTUAL RELATIONSHIPS



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POSSIBLE "SALES/DELIVERY" POINTS

*Form of Sale
i.e. Reliability of supply*

SALES POINT (EXAMPLES)

Wellhead market	Producing area	Intra-state direct sales market	Interstate commodity market	"Value-added" interstate market	Retail
	"Wellhead" market (Tenneco, Yankee, USNGC)	(Houston, Lake Charles, Galveston, Port Arthur)	(LDC spot purchases)	(LDC firm purchases)	

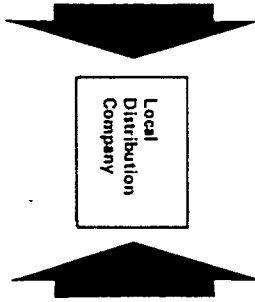
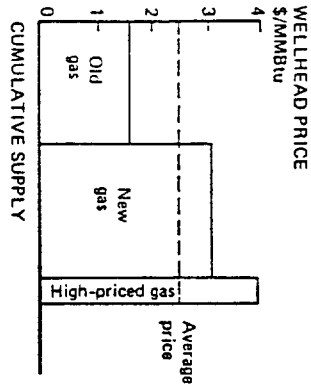
GENERAL ATTRIBUTES

Traditional approach	Relatively thin, very low-value market	Deep, low-value market	Moderately deep, increasingly low-value market	Very large, high-value market	Regulated return (R&C)
Increasingly "industrial" market	Short-term sales	Short-term sales	Short-term sales	Risk-averse customer with "cost-plus" mentality	Barriers to entry (R&C)
Allows pipelines, others to capture transport and value-added margins	Largely controlled by pipelines	No "rolling-in" benefit	Difficult to differentiate	Attributes high value to "packaging"	Industrial/utility market has potential for growth, differentiation
	"Value-added" market	Attractive seasonal characteristics	Difficult to gain position	Possible to secure long-term position	

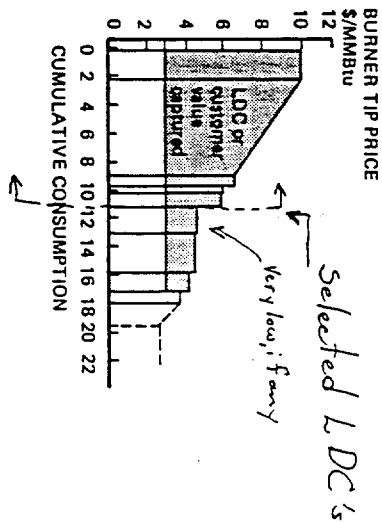
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ATTRACTIVENESS OF LDC SALES

"ROLLING-IN" CAPABILITY
ON SUPPLY SIDE



"SURPLUS VALUE"
ON MARKET SIDE



ILLUSTRATIVE

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PRINCIPAL "VALUE-ADDED" COMPONENTS

SUPPLY SECURITY

CONTRACTUALLY SPECIFIED PRICING

SEASONAL/DAILY SWING CAPABILITY

ABILITY TO MEET "CONTINGENT DEMAND"

SUPPLY ADMINISTRATION

} Supply Pool w/ Storage Back-up & w/ purchase of some service from R.

TRANSPORT ADMINISTRATION

Lead Transport Negotiations — open negotiations w/ Regulatory

Shared Outlooks — Planning

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IMPLICATIONS - VALUE-ADDED PACKAGING

INCREASED VOLUMES OF NEW GAS WILL BE SOLD OUTSIDE TRADITIONAL
~~PIPELINE RELATIONSHIPS~~

RELIANCE ON TRADITIONAL PIPELINE RELATIONSHIPS FOR FUTURE NEW
GAS SALES WILL LIKELY RESULT IN:

- LIMITED SALES OPPORTUNITIES
- LOWER PRICES
- REDUCED TAKES

HOWEVER, SOME DIRECT SALE OPTIONS ALSO HAVE UNATTRACTIVE
COMMODITY OR "DISTRESS SALE" CHARACTERISTICS

- TX/LA DIRECT SALES - E.G., H&P
- LDC SPOT MARKET
- TENNGASCO, USNGC

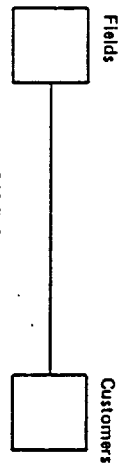
VALUE-ADDED DIRECT SALES WILL OCCUR FAIRLY FAR DOWNSTREAM -
FIRM SALES TO LDCs

CAPTURING VALUE WILL REQUIRE PACKAGING OF GAS "PRODUCT" - E.G.,
SUPPLY SECURITY, CONTRACTUAL PRICING . . .

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IMPACT ON SHELL OF CAPTURING
TRANSPORT/PACKAGING VALUE

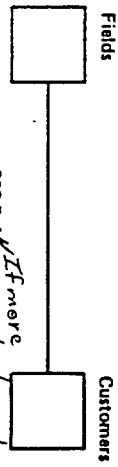
CURRENT



610 Bcf
\$0.60/Mcf transport
0.30/Mcf value-added "packaging"
0.90/Mcf

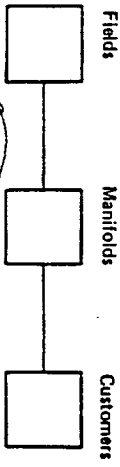
\$549

FUTURE



200 Bcf *If more
FERC abundance
H₂ < 200 BCF*
0.80/Mcf

180



410 Bcf
0.15/Mcf transport
410 Bcf
0.20/Mcf transport

144
\$324

\$255
Value shift
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*Partially
Dependent on Future Shell
Rig Rate.
Release "New Gas"*

ILLUSTRATIVE

VALUE EXTRACTED
BY PIPELINES
\$ Millions

TODAY'S DISCUSSION

INDUSTRY RESTRUCTURING AND OPPORTUNITY FOR SHELL

STEPS TO CAPTURE THE OPPORTUNITY

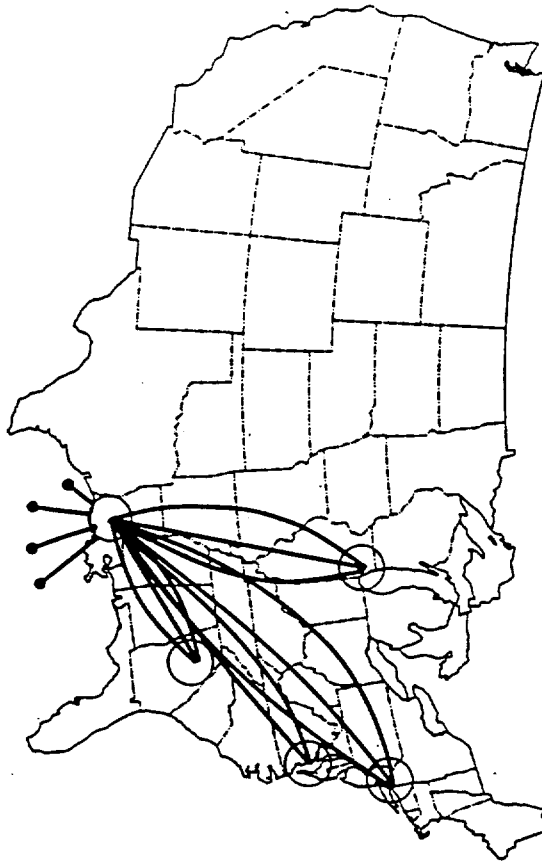
NEEDED ORGANIZATIONAL ENHANCEMENTS

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STEPS TO CAPTURE THE OPPORTUNITY

MANIFOLD CONCEPT



STEPS

1. Develop capability to "package" gas into value-added products and sell "delivered" to city gate
2. Develop an asset position at critical points along the upstream transport system
3. Strictly **target** downstream marketing efforts to gain transport flexibility

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DEVELOP CAPABILITY
TO "PACKAGE" GAS

KEY LDC REQUIREMENTS

Term Sale

LONGER-TERM, ~~FIRM~~ SUPPLY COMMITMENT

- 5-YEAR AND 10-YEAR FIRM SUPPLY
- SOME, BUT VERY LIMITED, GEOLOGICAL RISK

CONTRACTUALLY SPECIFIED PRICING FORMULA

- ~~SMOOTH~~, PREDICTABLE DURING MAJORITY OF TERM
- MARKET-RESPONSIVE AT THE EXTREMES
- ~~APPEARANCE OF DILIGENCE~~
- PROTECTS AGAINST LOAD LOSS TO ALTERNATE FUELS

Minimize!!

SEASONAL/DAILY SWING CAPABILITY

ABILITY TO MEET "CONTINGENT DEMAND"

TRANSPORT ADMINISTRATION

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*New Development Financing
w/ Take Sensitivity
\$ Price Sensitivity.*

SUPPLY COMMITMENT PROPOSAL

STRUCTURE ~~SUPPLY~~ COMMITMENT "POOLS"

- DEDICATED ACREAGE
- SPECIFIED DELIVERABILITY POINT
- UNSPECIFIED DEVELOPMENT PROGRAM

SIZE POOLS TO MEET CUSTOMER/SHELL REQUIREMENTS

- LARGE ENOUGH TO PROVIDE LDC/END-USER GEOLOGY HEDGE
- SMALL ENOUGH TO LIMIT CONTRACTUAL RISK

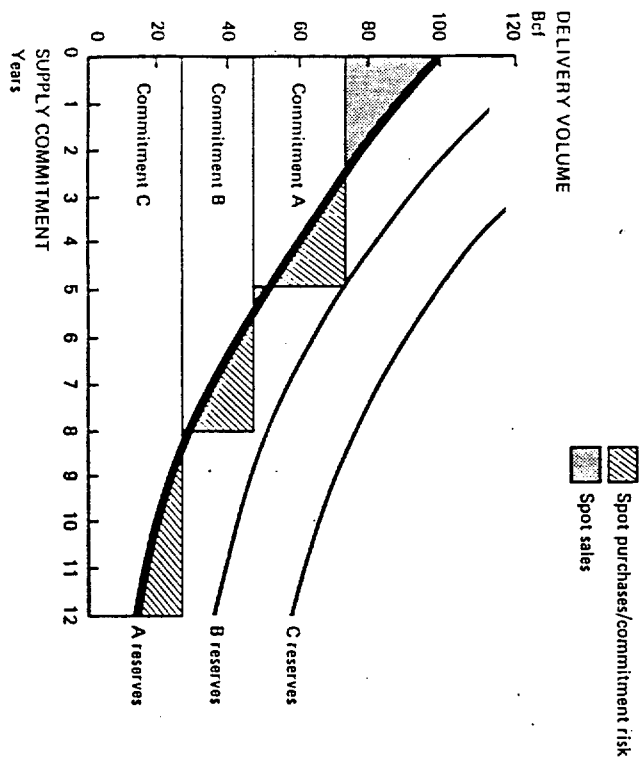
WRITE SUPPLY COMMITMENT CONTRACTS AGAINST POOL DELIVERABILITY

- PORTFOLIO OF CONTRACTS (1-, 2-, 3-, 5-, 10-YEAR COMMITMENT)
- PORTFOLIO STRUCTURE TIED TO STATED RISK LEVEL (A, B, OR C RESERVES)

"TOP-UP" AND RISK-BALANCE SALES AND PURCHASES WITH OPEN-MARKET TRADING CAPABILITY AND INTERRUPTIBLE SALES

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LONG-TERM SUPPLY COMMITMENTS VS. RESERVE POSITION



ILLUSTRATIVE

REQUIRED MECHANISMS

Based on banking analogy

- High-level declaration of policy, guidelines
- Explicit "worst-case scenario" planning
- Flexible band to govern day-to-day position
 - Narrow for corporation
 - Wider for individual units
- Centralized "balancing process"
 - Closely associated trading function
 - Manage asset/liability mix
 - Profit by early opportunities
 - Participate in all segments
- All sales/deliveries to/from "central pool" at gross price

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CONTRACTUAL PRICING FORMULA PROPOSAL

INCLUDE INITIAL PRICE PEG WITH ESCALATOR

PROVIDE MUTUAL EVERGREEN MARKET-OUT CUSHION

- LINKED TO DEEP/VISIBLE ALTERNATE FUEL MARKET
- REASONABLY WIDE RANGE WITHOUT TRIGGERING

PROVIDE 5-YEAR REOPENER CUSHION ON LONGER CONTRACTS

- LINKED TO RECENT, COMPARABLE CONTRACTS *They not be many*
- REASONABLY WIDE RANGE WITHOUT TRIGGERING

PROVIDE WORST-CASE REOPENERS

- REGULATION-RELATED
- DRILLING-COST-RELATED

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MANAGE DEMAND/SUPPLY BALANCE
Dollars per million Btu

ILLUSTRATIVE

Approximate
Price

Approximate
Price

100%		
10	Spot sales	\$2.00
30	Interruptible interstate	2.20
60	Firm interstate	2.50

DEMAND MIX
(AVERAGE = \$2.38)

100%		
20	Spot purchases	\$2.00
20	Long-term purchases (low R/P)	2.20
20	Long-term purchases (high R/P)	2.30
40	Shell production	

SUPPLY MIX
(AVERAGE = \$2.38)

← Pay Royalty

High net value ≈ \$2.87
High take profile

↑

"Retail Sales"

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ADVANTAGES OF CITYGATE DELIVERY

SHELL CAN DIFFERENTIATE ITSELF FROM OTHER PRODUCERS

SHELL CAN SQUEEZE TRANSPORT - PERHAPS WITH LESS VISIBILITY

SHELL CAN LEVERAGE TRANSPORT/STORAGE ENTITLEMENTS OVER MULTIPLE CUSTOMERS *Aggregate purchase of services*

SHELL CAN RETAIN UPSTREAM SUPPLY FLEXIBILITY *To redirect to premium mkt's. if they change over time.*

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DEVELOP A POSITION IN THE
UPSTREAM TRANSPORT SYSTEM

In order to establish a direct marketing capability, Shell will need to position itself at critical points along the upstream transport channels.

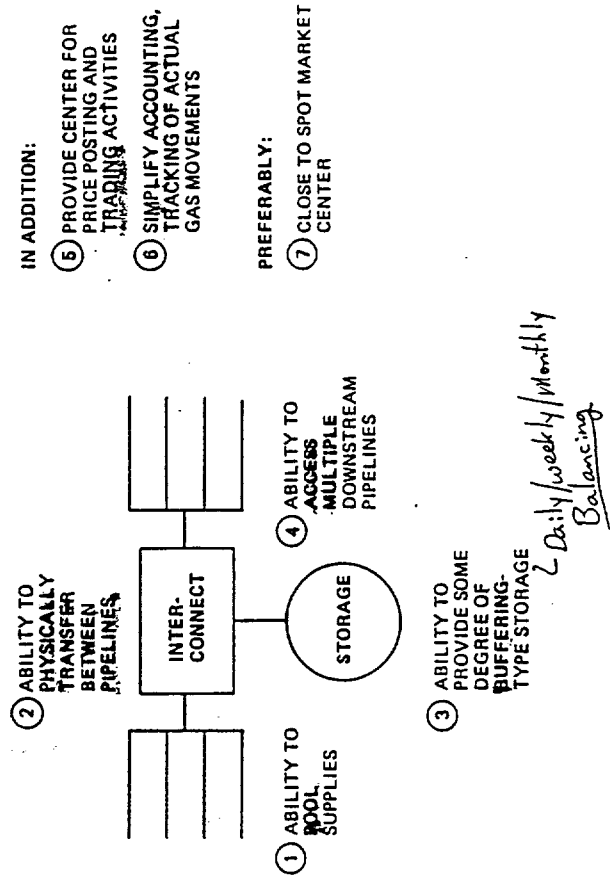
¶ Shell should move quickly to establish supply manifolds - points where it can physically pool supplies, provide some degree of buffering-type storage, transfer gas from upstream pipelines to multiple downstream pipelines, and center its trading activity.

¶ To ensure that it can get its gas from the field into manifold(s) on a consistent basis and at a reasonable cost, Shell should also develop gathering ~~requirements~~ in certain areas.

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Establish Supply Manifolds

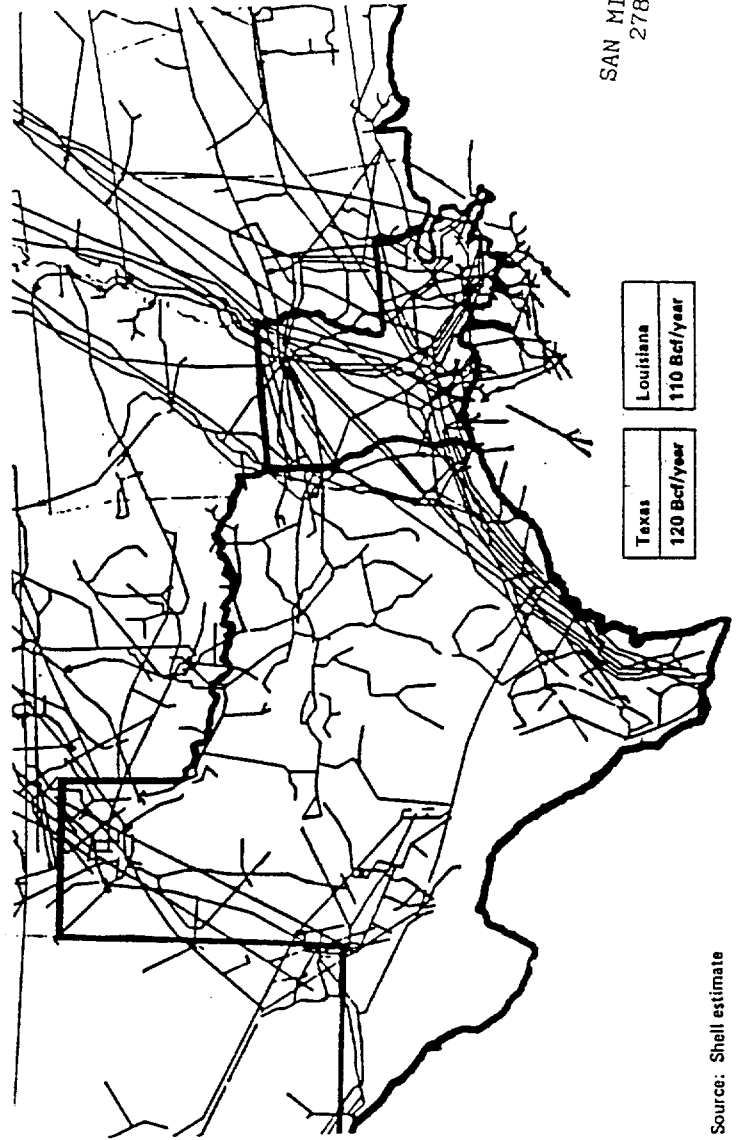
CHARACTERISTICS OF EFFECTIVE SUPPLY MANIFOLDS



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ESTIMATE

SHELL AVAILABLE, RELEASABLE VOLUMES — 1987

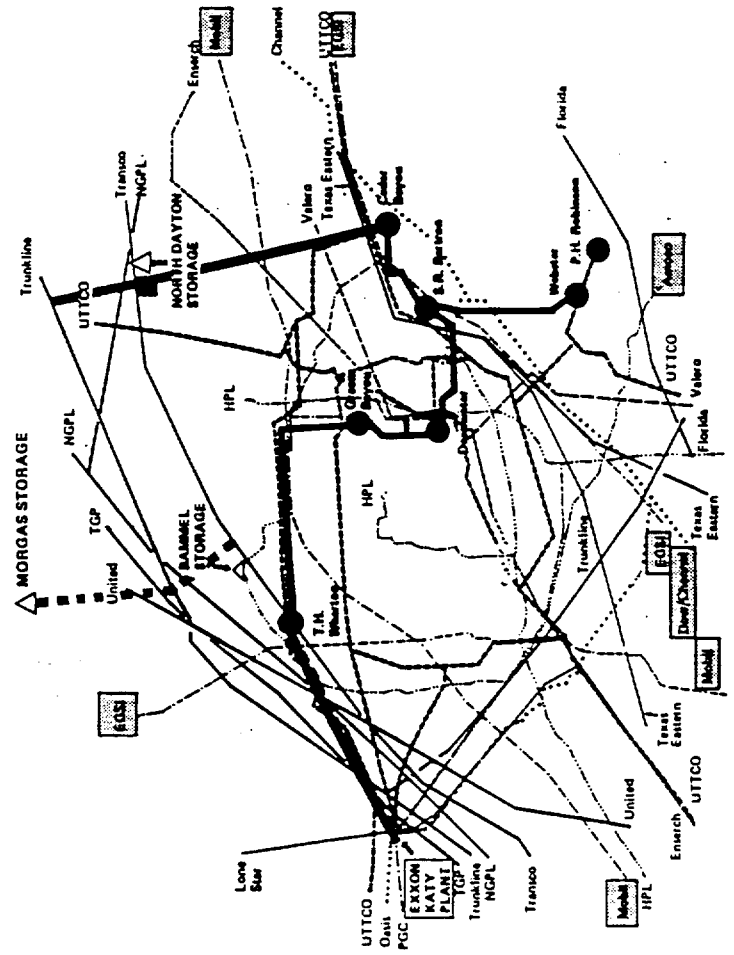


HOUSTON AREA INTERCHANGE OPPORTUNITIES

ILLUSTRATIVE

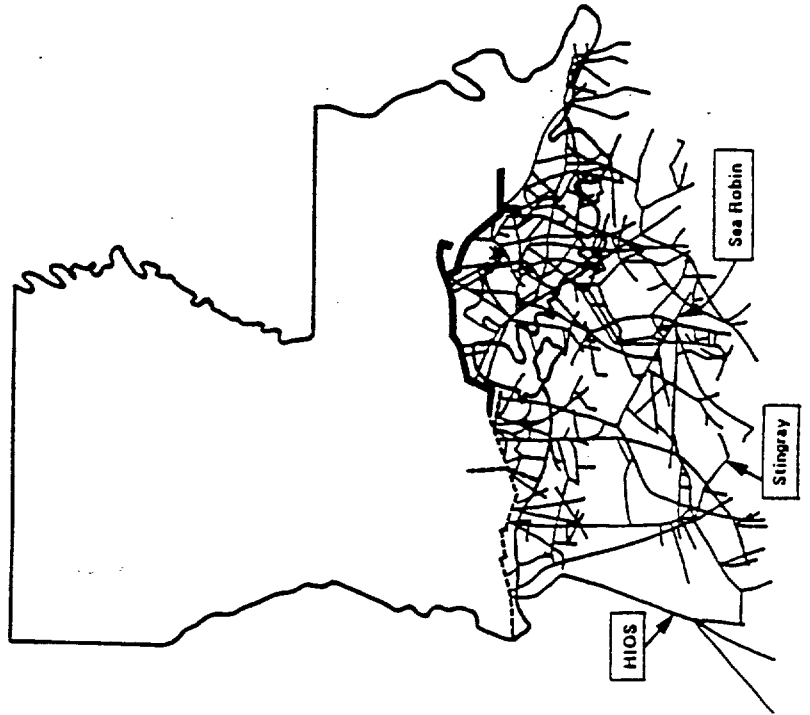
- Possible HL&P system
- Morgas (Texas intrastate)
- Other options

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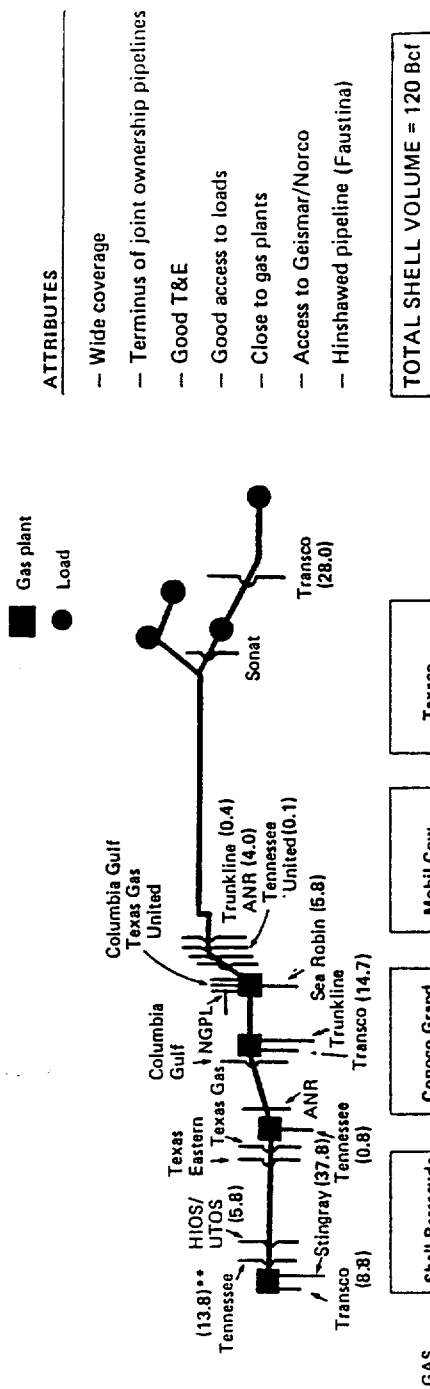
WILLIAMS NATURAL GAS GROUP

- Louisiana Resources Company
----- Faustina Pipeline
- ATTRIBUTES
- Wide coverage
 - Terminus joint ownership pipelines
 - Good T&E
 - Access to loads
 - Close to gas plants¹
 - Access to Geismar/Norco
 - Hinshaw Pipeline (Faustina)



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DETAIL OF LOUISIANA RESOURCES
COMPANY/FAUSTINA PIPELINE

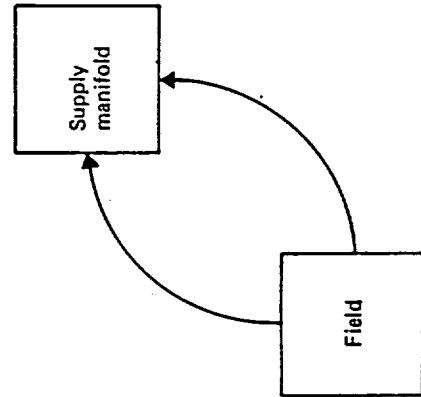


* Only Shell interest plants are shown
 ** Shell new gas volumes (Bcf per year)
 Source: Louisiana Department of Conservation; pipeline maps; Williams internal data

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Develop Gathering Entitlements

GATHERING ENTITLEMENTS/FLEXIBILITY



UTILITY

Ensures continuous access to gathering transport
Provides opportunity to limit or reduce gathering cost

REQUIREMENTS

Joint ownership lines
Multiple field outlets
Entitlements — *Firm Contract*

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USE A TARGETED
APPROACH TO SQUEEZE
DOWNSTREAM TRANSPORT MARGINS

To capture some or all of the value-added being captured by transporters, two steps will be required:

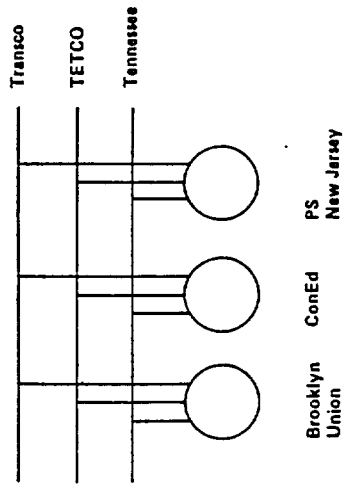
- ¶ Shell should target its marketing efforts on a select group of LDCs to gain full transport flexibility.
- ¶ Initially, Shell should utilize the firm transport and storage entitlements already controlled by targeted LDCs while attempting to secure its own longer term.

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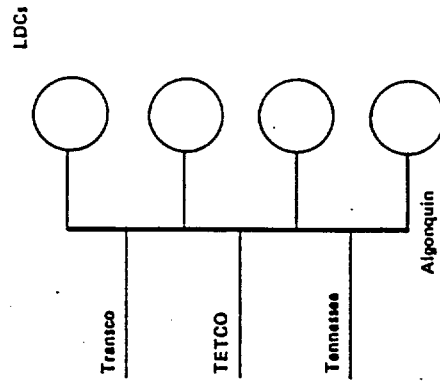
Target Efforts at
Flexible Customers

FORMS OF DOWNSTREAM FLEXIBILITY

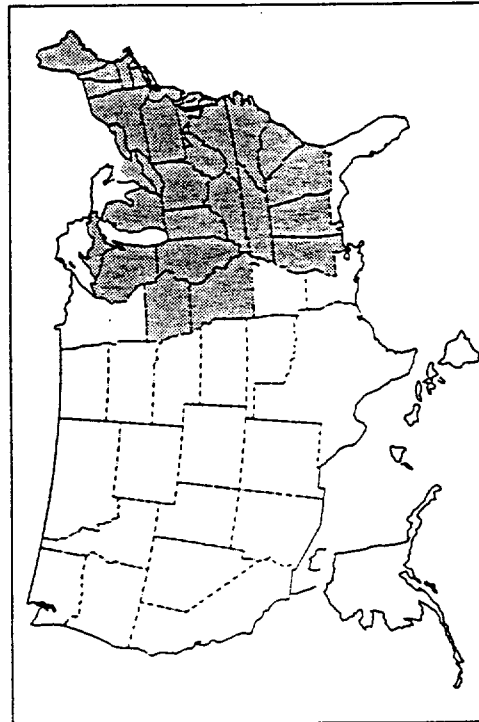
DIRECT



INDIRECT



MARKETING REGION STUDIED



LDCs COVERED*

Alabama Gas	Illinois Power	PS Electric & Gas
Atlanta Gas Light	Indiana Gas	PS of North Carolina
Baltimore G&E	Interstate Power	Penn. Gas & Water
Bay State	Kansas P&L	Peoples Gas Light
Boston Gas	Lilco	Philadelphia Gas Works
Brooklyn Union	Louisville G&E	Philadelphia Electric
Central Illinois PS	Michigan Gas	Piedmont
Cincinnati G&E	Mississippi Valley	Providence
Citizens Gas & Coke	Memphis	Rochester G&E
Columbia	MichCon	S. Jersey
Commonwealth	North Shore	S.C. E&G
Con Ed	North Carolina NG	United Cities
Consolidated	NIGAS	UGI
Consumers Power	NIPSCO	Wisconsin NG
Dayton P&L	New Jersey NG	Wisconsin P&L
Elizabethtown	NY State E&G	Wisconsin PS
Equitable	Nashville	Wisconsin Gas
Gas Service	National Fuel	Washington Gas Light
Iowa E&P	Niagara Mohawk	
Iowa Gas	Northeast Utilities	
Iowa-Illinois G&E	Orange & Rockland	
Iowa PS		

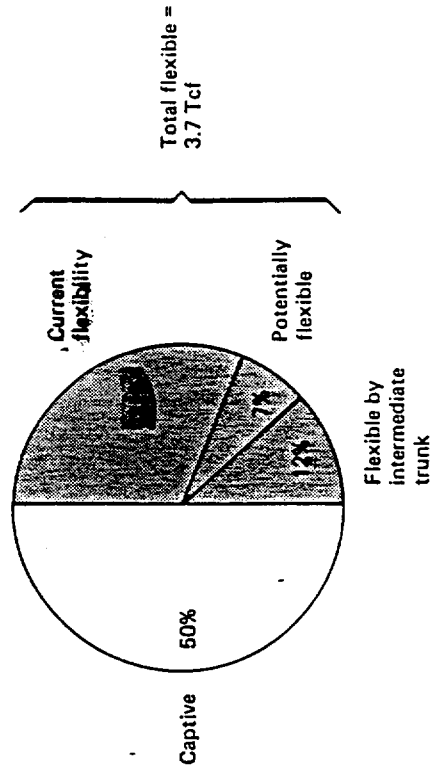
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* LDCs larger than 25 Bcf per year total purchases

PIPELINE FLEXIBILITY IN THE TARGET MARKET - 1984
Percent of total gas throughput

Flexible volumes

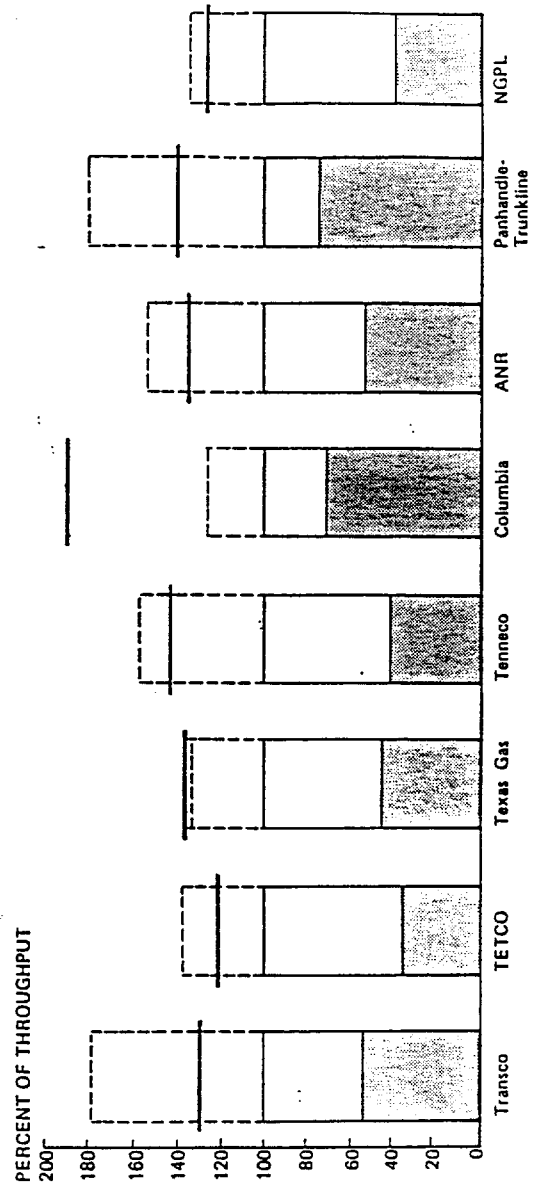
100% = 8.1 Tcf



Source: USR; Interviews

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PIPELINE FLEXIBILITY WITH PLANNED INTERCONNECTS - 1984



Source: Flexibility data base

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PRELIMINARY

- Very attractive
- ◐ Somewhat attractive
- Not attractive

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TWENTY MOST ATTRACTIVE LDCs

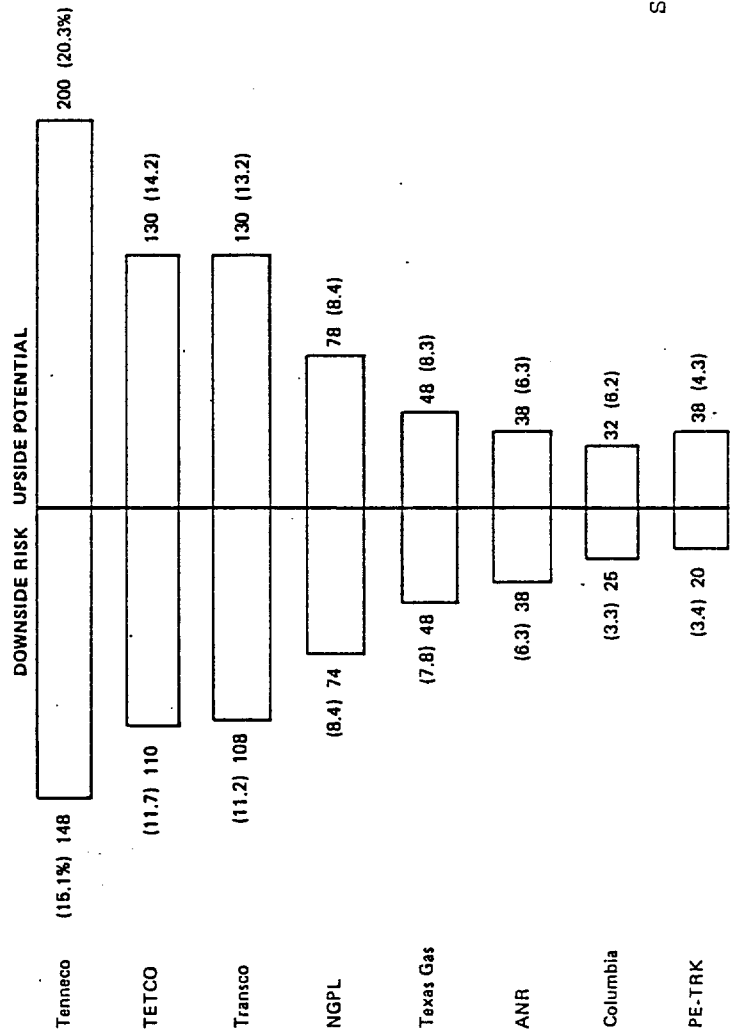
Alternate 1st

Electric	Willing to sell	Alternate fuel	Swing	% E&G	State	Saturation	Population growth	Industrial base
Brooklyn Union	●	●	●	●	●	●	●	●
Public Service E&G	●	●	●	●	●	●	●	●
Washington G. L.	●	●	●	●	●	●	●	●
Lilco	●	●	●	●	●	●	●	●
Con Ed	●	●	●	●	●	●	●	●
Mich Con	●	●	●	●	●	●	●	●
Peoples	●	●	●	●	●	●	●	●
Piedmont	●	●	●	●	●	●	●	●
Elizabethtown	●	●	●	●	●	●	●	●
Consolidated	●	●	●	●	●	●	●	●
Bay State	●	●	●	●	●	●	●	●
Orange & Rockland	●	●	●	●	●	●	●	●
NIGAS	●	●	●	●	●	●	●	●
Philadelphia Electric	●	●	●	●	●	●	●	●
Atlanta G. L.	●	●	●	●	●	●	●	●
S. C. E&G	●	●	●	●	●	●	●	●
Cincinnati G&E	●	●	●	●	●	●	●	●
Central Illinois Light	●	●	●	●	●	●	●	●
Nashville	●	●	●	●	●	●	●	●
Boston Gas	●	●	●	●	●	●	●	●

Brooklyn Union
Public Service E&G
Washington G. L.
Lilco
Con Ed
Mich Con
Peoples
Piedmont
Elizabethtown
Consolidated
Bay State
Orange & Rockland
NIGAS
Philadelphia Electric
Atlanta G. L.
S. C. E&G
Cincinnati G&E
Central Illinois Light
Nashville
Boston Gas

Source: USRs; interviews; Petroleum Monthly; AGA; Survey of Buying Power; DRI; McKinsey analysis

**VOLUME POTENTIAL PER MAJOR PIPELINE
WITH 10% SHARE OF THE TOP TWENTY LDCs***
Bcf (percent of pipelines' 1984 throughput)



* Not additive; total = 316 Bcf

Source: USRs; Interviews; McKinsey analysis

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Use Customer's Own Transport
And Storage Entitlements

PROPOSED SHELL APPROACH TO SECURING TRANSPORT

UTILIZE LDC FIRM TRANSPORT ENTITLEMENTS

COMMIT TO MAINTAIN FIRM RESERVATION ENTITLEMENTS

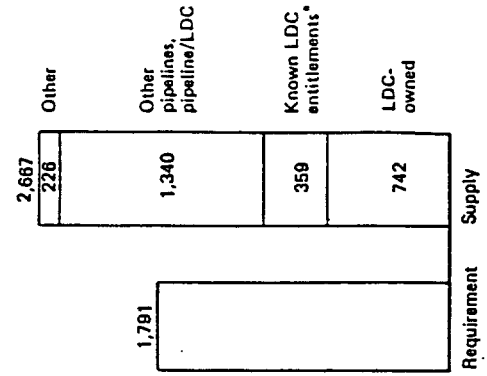
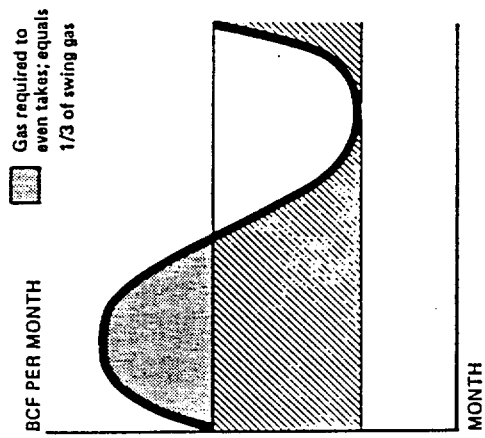
MOVE GAS DAY TO DAY ON CHEAPEST ROUTE

FALL BACK ON FIRM ENTITLEMENT ON PEAK DAYS

YEAR TO YEAR, NEGOTIATE REDUCED-RATE FIRM ENTITLEMENT

OVER TIME, ATTEMPT TO REDUCE NEED FOR FIRM TRANSPORT

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ILLUSTRATIVEDOWNSTREAM STORAGE - 1984
TcfSTORAGE GAS REQUIREMENT

* Based on interviewed LDCs only; sample is 72% self-sufficient
Source: AGA; FERC Form 2; USRs

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SUMMARY OF RECOMMENDED STRATEGIC STEPS

Key strategic steps

Develop supply pool and standard "products" with pricing terms

Establish a position at critical points in the upstream transport system

- Establish supply manifolds (e.g., Williams)
- Develop gathering flexibility (e.g., multiple field outlets)

Target marketing efforts to squeeze transport

- Market to flexible customers
- Use LDCs' own transport and storage

Degree of preemption

- Supply pool requires scale, released volumes, geographic concentration
- Product design requires knowledge of alternate fuels, scale

Customer Needs

- Supply manifold moderately preemptive
 - . Williams is perhaps the best, but not the only, remaining Louisiana manifold
 - . Texaco, Exxon, Conoco already have systems in Louisiana
 - . Possibility for similar move in Texas, but again others (Exxon, Amoco) have systems in place
 - Some MFO opportunities are unique to Shell by virtue of its concentration offshore

- Long-term contracts could secure certain important markets
- Selective asset positions downstream would greatly enhance downstream position

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Fandango Field Sales Recap

	1989	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
UTTCO/Affiliates	mcf	1262267	552973	636886	524793	446264	291164	590354	590313	447811	1493531	636501	310434
Valero	586498		159590	426184	28325	1156148	686	140456	589178	327270	678	565527	678225
Shell Gas Trading	288159	274162	654229	306635	647416	339052	390064	387756	798963	462271	318562	244735	310000
HC PVR Replacement	0	1120000	667641	717264	895380	939503	939503	798963				308031	636881
Total mcf	2137424	1947135	2118346	1974876	2017385	1786364	1920607	1917488	1826530	1812771	1754794	1935540	

548482

2

UTTCO/Affiliates	value \$	2587280.05	808947.00	822433.44	765931.24	682251.19	457363.01	927340.13	894411.98	616807.00	2085027.09	1017228.43	584817.02
Valero	1100259.17		206466.00	613961.67	42893.15	1890216.22	1042.80	205142.24	807600.99	916.06	914795.28	1282568.60	
Shell Gas Trading	562790.54	394282.46	850835.71	437507.48	997908.49	551585.77	615638.66	590744.05	454850.26	444724.70	494281.59	1193501.93	
HC PVR Replacement	1627526.08	857919.50	1038600.38	1362957.13									

Total \$	4250329.76	2830755.54	2737654.65	2856000.77	3086009.96	2899165.00	2993095.24	2899299.98	2515559.75	2530667.85	2817383.21	3645704.57	
Average Price/mcf	1.989	1.454	1.292	1.446	1.53	1.623	1.558	1.512	1.377	1.396	1.606	1.884	

UTTCO/Affiliates	2.049	1.463	1.291	1.459	1.529	1.571	1.571	1.515	1.377	1.396	1.598	1.884	
Valero	1.876	1.294	1.301	1.441	1.514	1.635	1.52	1.461	1.371	1.351	1.618	1.891	
Shell Gas Trading	1.953	1.438	1.301	1.427	1.541	1.627	1.578	1.523	1.39	1.376	1.396	1.887	
HC PVR Replacement		1.453	1.285	1.448	1.522	1.542	1.542	1.513			1.605	1.874	

BRU $\frac{1}{89}$

UTTCO .915469
Valero .960

UTTCO $\frac{7}{89}$
Tejas .9818
Valero .962

MMBtu price

SGulf (UTTCO) 2.10

Valero 1.955

SGT (UTTCO) 2.00

HC PVR (UTTCO) 1.58

SGulf (UTTCO) 1.611

SGT (Tejas) 1.607

Valero 1.58

Fender's Field Sales Recap

	1990	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Valero	mcf	mcf	mcf	mcf	mcf	mcf	mcf	mcf	mcf	mcf	mcf	mcf	mcf
Shell Gas Trading	1008883	1235292	1571258	1543442	975539	1303475	1164513	786916	1135622	851372	621585	1001679	501182
HC PVR Replacement	910017	157089	193532	199287	800210	395480	536494	861035	461590	796034	904248	501182	
Total mcf	1918900	1748081	1764790	1742729	1775813	1698955	1701007	1647951	1597212	1647406	1525833	1502861	
Valero	value \$	value \$	value \$	value \$	value \$	value \$	value \$	value \$	value \$	value \$	value \$	value \$	value \$
Shell Gas Trading	2248839.32	2142781.25	2094779.05	2039804.35	1304808.18	1839283.14	1602492.72	1010319.89	1491392.65	1303143.92	1176589.94	1990604.87	
HC PVR Replacement	2020661.17	276658.50	257563.27	261742.67	1068881.17	553374.22	736016.40	1103163.82	604798.86	1213652.81	1686035.71	976656.34	
Total \$	4269500.49	3024254.11	2352342.32	2301547.02	2373775.66	2392657.36	2338509.12	2113483.71	2096191.51	2516796.73	2862625.65	2967261.21	
Average Price/mcf	2.225	1.73	1.333	1.321	1.337	1.408	1.375	1.282	1.312	1.528	1.876	1.974	
Valero	2.229	1.735	1.333	1.322	1.349	1.411	1.376	1.284	1.313	1.531	1.893	1.987	
Shell Gas Trading	2.22	1.761	1.331	1.313	1.338	1.399	1.372	1.281	1.31	1.525	1.865	1.949	
HC PVR Replacement													

Btu Utco .974743

1/90

Tejas .974 (251341 mcf)

Valero .980 (751542 mcf)

Utco .976443

7/90

Tejas .982 (409691 mcf)

Valero .978 (730873 mcf)

MMBtu price

HC PVR (Utco) 2.278

SGT (Tejas) 2.278

SGT (Valero) 2.278

HC PVR (Utco) 1.405

SGT (Tejas) 1.405

SGT (Valero) 1.405

Fandango Field Sales Recap

Fandango Field Sales Recap																								
	1991	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec											
Shell Gas Trading	mcf	1252472	mcf	852038	mcf	969421	mcf	613515	mcf	1309267	mcf	1149674	mcf	1306806	mcf	1211776	mcf	1252928	mcf	748196	mcf	729720	mcf	935839
		253028		480622		462977		758304		42622		182027		41417		95161		1252928		553200		688526		345831
HC PVR Replacement																								
Total mcf		1505500		1332660		1432398		1371819		1351889		1331701		1348223		1306937		1252928		1301396		1418246		1281670
Shell Gas Trading	value \$	2162855.80	value \$	1111449.58	value \$	1231024.34	value \$	801774.53	value \$	1717729.58	value \$	1454542.06	value \$	1421961.14	value \$	1476771.37	value \$	1799771.54	value \$	1239348.42	value \$	1221434.55	value \$	1746009.54
		427449.36		612193.77		590343.70		992999.75		55973.06		230579.93		45178.77		116141.15		918052.48		1155762.00		647696.45		
HC PVR Replacement																								
Total \$		2590305.16		1723643.35		1821368.04		1794774.28		1773702.64		1685121.99		1467139.91		1592912.52		1799771.54		2157400.90		2377196.55		2393705.99
Average Price/mcf		1.721		1.293		1.272		1.308		1.312		1.265		1.088		1.219		1.436		1.658		1.676		1.868
Shell Gas Trading		1.727		1.304		1.27		1.307		1.312		1.265		1.088		1.219		1.436		1.656		1.674		1.866
		1.689		1.274		1.275		1.31		1.313		1.267		1.091		1.22				1.66		1.679		1.873
HC PVR Replacement																								

Btl

1/41

7/41

uttlc .904233
 Tejas .99 (415008)
 Delhi .983 (777464)

uttlc .992573 (SGT 936959 mcf)
 Valero .988015 (137586 mcf)
 Delhi .985 (232261 mcf)

MMBtu price

HC PVR 1.752
 SGT (Tejas) 1.752
 SGT (Valero) 1.752

HC PVR 1.099
 SGT 1.099

P 04847

Fandango Field Sales Recap

	1992	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Shell Gas Trading	mcf	1134168	1144978	1096889	996557	1129338	1062301	1157811	1122136	1138464	1099623	1124086	1076968
HC PVR Replacement	123613	15485	128553	179474	93527	91320	94364	93992	93992	94116	94116	1124086	54747
Total mcf	1257781	1160463	1225442	1176031	1222865	1153621	1252175	1216128	1138464	1193739	1124086	1131715	
Shell Gas Trading	value \$	1835372.58	1164178.20	1289828.79	1351302.08	1691296.67	1700525.56	1673343.17	2057889.83	2150388.53	2828312.53	2409782.96	2250182.62
HC PVR Replacement	200393.24	15770.33	151515.45	244293.34	140843.49	146430.00	136617.00	172544.34	242129.59	242129.59	242129.59	114696.00	
Total \$	2035765.82	1179948.53	1441344.24	1595595.42	1832140.16	1846955.56	1809960.17	2230434.17	2150388.53	3070442.12	2409782.96	2364878.62	
Average Price/mcf	1.619	1.017	1.176	1.357	1.498	1.601	1.445	1.834	1.889	2.572	2.144	2.09	
Shell Gas Trading	1.618	1.017	1.176	1.356	1.498	1.601	1.445	1.834	1.889	2.572	2.144	2.089	
HC PVR Replacement	1.621	1.018	1.179	1.361	1.506	1.603	1.448	1.836	1.889	2.573	2.144	2.095	

BTU

1/92

7/92

utteo .988496 (SGT 572.000)
 Tejas .972 (96042 mcf)
 Delhi .988 (472126 mcf)

utteo .98548 (SGT 736.428)
 Tejas .984 (187976)
 Delhi .979 (233407)

mmBtu price

HC PVR (utteo) 1.640
 SGT 1.640

mmBtu price

1.469

Fandango Sales Recap

	1993	Jan	Feb	March	April	May	June	July
Shell Gas Trading	mcf							
HC PVR Replacement	mcf	921979	846402	1021191	930710	1184553	1153289	1114640
		220658	199304	114454	166583			
Total mcf		1142637	1045706	1135645	1097293	1184553	1153289	1114640
Shell Gas Trading	value \$	1729561.88	1316592.90	1855526.56	1972591.22	3040977.59	2150428.62	2050951.83
HC PVR Replacement	value \$	413986.30	310239.23	208077.40	353417.88	0.00	0.00	0.00
Total \$		2143548.18	1626832.13	2063603.96	2326009.10	3040977.59	2150428.62	2050951.83
Average Price/mcf		1.876	1.556	1.817	2.12	2.567	1.865	1.84
Shell Gas Trading		1.876	1.556	1.817	2.119	2.567	1.865	1.84
HC PVR Replacement		1.876	1.557	1.818	2.122			

RTU 1/93

9/93

uttered .98343 (SGT 241397 mcf)
 Tejas .986 (197746 mcf)
 Delhi .982 (476836 mcf)

uttered .976796
 Tejas .974

MMSTU price

1.908

MMSTU price

1.884